A Quick Test

Using Energy Efficient Products and Practices Can:

A. Make your home more affordable

B. Make your home more environmentally friendly – lower your carbon footprint

C. Increase your comfort
Did You Know...

• A single home adds MORE carbon dioxide to the air than two average cars?

• The average household spends $2,000/yr on energy?

What do you spend per month?
Today’s Discussion

• ENERGY STAR Products
• Energy Efficiency Features
  – Existing Homes
  – New Homes
• Home Energy Raters
• Residential Energy Tax Breaks
Energy Use by Appliance

Where Does My Money Go?

Annual Energy Bill for a typical Single Family Home is approximately $2,200.

- Heating: 29%
- Cooling: 17%
- Water Heating: 14%
- Appliances (includes refrigerator, dishwasher, clothes washer and dryer): 13%
- Lighting: 12%
- Electronics (includes computer and monitor and TV and DVD player): 4%
- Other* (includes external power adapters, telephony, set-top boxes, ceiling fans, vent fans and home audio): 11%
ENERGY STAR Covers...
ENERGY STAR Qualified Products:

• Save energy
• Perform as well or better than non-qualified products
• Are cost-effective for consumers (the payback of the price premium is within the lifetime of the product)
Look for the Label

Finding products and services that provide these benefits isn’t hard
— just look for the label!
Example: Lighting

- Uses about 12% of energy in average American home.

Choose Compact Fluorescent Lamps (CFLs):

- Over 90% of energy in standard incandescent light bulbs is given off as heat.
- Replacing the bulbs in your five highest use light fixtures with CFLs can save about $60/yr.
- CFLs last up to 10 times longer than incandescent
- Buy ENERGY STAR qualified CFLs!
How much does it cost to run your refrigerator each year?

<table>
<thead>
<tr>
<th>Date Model Was Made</th>
<th>1970s</th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
<th>2009 ENERGY STAR® Qualified Refrigerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity Costs</td>
<td>$259</td>
<td>$163</td>
<td>$97</td>
<td>$66</td>
<td>$48</td>
</tr>
</tbody>
</table>

Make a **COOL CHANGE.**
Recycle Your Old Fridge.
Product Name Plate

Older Styles & Colors

Calculator at energystar.gov/recycle
Where to Find Energy Star Products

Manufacturers

MAYTAG  Whirlpool  PHILIPS  GE

Pella  Sylvania  SIMONTON  JELD-WEN

Retailers

Sears  The Home Depot  Lowe's  Best Buy
How To Find Out More

For answers to your questions, to find out how much you can save, or just to find a store near you, just go to:

www.energystar.gov

Or call 888-STAR-YES
Residential Energy Use

Your House is a SYSTEM
Improving Existing Homes

- **Air Seal & Insulate** to reduce heating & cooling bills by 20%
- **Replace filters monthly** on your furnace, air conditioner, and heat pump
- **Insulate hot water pipes**
- **Use a programmable thermostat**
- **Upgrade to ENERGY STAR products** for lighting, appliances, windows, heating and cooling equipment, water heating...
Step 1: Air Seal
Can I make my house “too tight”?

• Not really…

• If you are worried, talk to a professional

• You can always add ventilation
Step 2: Insulate
How much insulation should I add?

• Dependant on location, other factors
• Rule of thumb: at least cover your joists
• Calculator: 
• Can be found through 
  www.energysavers.gov, or by typing “insulation calculator” into your favorite search engine!
More Information on Air Sealing and Insulating

- www.energystar.gov

- www.energysavers.gov
Energy Saving Tips

Other things to remember to do!!

• Insulate your water heater (payback in about 1 year!!)*
  • Or, if it’s older than 10 years, think about replacing it with a new ENERGY STAR qualified unit.

• Turn down temperature in water heater to 120°F

• Use energy-saving settings on refrigerators, dishwashers, washing machines & clothes dryers

• Set back thermostat temperatures or use a programmable thermostat to have them set back automatically (unless you have a heat pump!)

• Close doors, windows and chimney damper when heating and cooling

• Room Air Conditioners: Take them out of season or at least use Room AC covers
We’re buying a new house, what features should we seek?

Energy Features in New Homes
Energy Star Homes

Very Cost Effective

- Saves 15% of whole house utility bills
- About 10% of all homes built today are Energy Star Homes
- 20-40% market share in some cities
Energy Saving Features

New Homes

Space Heating accounts for 40-50% of energy bill

- Properly-Sized ENERGY STAR qualified equipment
  - Ask contractors to use Manual J calculations to size system
  - Gas furnaces - at least 90 AFUE
  - Air conditioners/heat pumps – 8.0 HSPF or higher
  - Geothermal heat pumps (most qualify)

- Home insulation
  - Zip Code Insulation Calculator
  - Be sure it is properly installed

- Sealed and tested for air leakage

- Tight ductwork
Saving Energy in New Homes

Windows designed for your climate

- **Hot climates** - seek a low solar heat gain coefficient (SHGC)
- **Cold climate** - seek low u-factor
- **Western windows and doors**: major heat gains in the summer
- **Overhangs** often needed to keep out summer sun
Where does it qualify?
Energy Saving Features

*New Homes*

Water Heating accounts for 15-20% of energy bills

- **ENERGY STAR** qualified water heaters now available.
  Cut your water heating bills by 7% to more than 50%!

- Types of Energy Star Qualified Water Heaters
  - High Efficiency (Gas-Fired) Storage: save +/- 7%
  - (Gas-Fired) Tankless: save +/- 30%
  - Heat Pump Water Heater: save +/- 50%
  - Solar: save a lot – varies more with climate
The E-Scale

Estimated monthly energy bill

Estimated annual energy use (gas and electric)

Average energy performance of existing housing stock

Average energy performance of a home built to code (2004 IECC)

Threshold for a home to meet the Builders Challenge

Verified performance estimate for home. A 64 rating on the E-Scale saves about 36% in energy use on utility bills.

U.S. Department of Energy

ADBuilder ADBuilder

123 Main Street, Gainesville, FL 32601
Rated by Home Performance, Inc.
Rating conducted June 8, 2008

www.buildingamerica.gov/challenge
Energy Raters

How can they help?
Saving Energy in Homes

You can make some improvements, but... to achieve the best performance you need a professional, a certified home energy rater.

Following the recommendations of a properly done home energy rating...

- leads to a much more comfortable home
- is very cost effective

In the third-floor studio, gaps between the ceiling drywall and the cinder-block gable wall result in air leaks between conditioned and unconditioned space.
Energy Rater

• Performs an evaluation and suggests how to improve your home’s performance

– On-site energy inspection
– Air leakage test (blower door test)
– Computer analysis-estimated savings

– May include Infrared camera scan
– Pinpoints cost-effective improvements
Blower Door Test

• Conduct air leakage test using a blower door

• Helps identify air infiltration areas in your house
Infrared Cameras Show Air Leaks

Identified Leaks
Home Energy Rater

Locate a certified Home Energy Rater via Residential Energy Services Network (RESNET)

Visit: [www.natresnet.org](http://www.natresnet.org)
Energy Tax Credits

I WANT YOU TO SAVE ENERGY AND TAX DOLLARS TOO!

BEAUTIFY YOUR EXTERIOR
ADD VALUE TO YOUR HOME
BE COMFORTABLE
CONSERVE ENERGY
GET A TAX CREDIT

It makes so much cents!

The Energy Tax Bill was signed into law in August of 2005. For home owners, installing new energy-efficient Norandex/Reynolds building products not only adds comfort, value and beauty to your home, it now may get you a break on your taxes too!
Energy Tax Credits available through 2016
New or Existing Homes

A credit of up to 30% of the cost (no upper limit) for:

- Solar-powered hot water systems
- Solar-powered PV systems
- Geothermal Heat Pumps
- Small wind-power systems
- Fuel cell systems
Existing Homes

Consumer tax credits of 30% up to a total of $1,500 in 2009 and 2010:

- Windows & Doors
- Insulation
- Reflective Roofs
- HVAC: Central AC, furnaces, boilers, heat pumps, main air circulating fans
- Water Heaters (non-solar)
- Biomass Stoves
Energy Tax Benefits

More Information

• Congressional interest in extending or increasing the residential tax benefits—stay tuned

• Also, check for local state energy efficiency or solar tax benefits or sales tax holidays
  – Contact your State Energy Office for details
  – Or, visit: www.dsireusa.org
Federal Agency Information

  - (877) EERE-INF

- **[www.energystar.gov](http://www.energystar.gov)**
  - (888) STAR-YES
Thank You!

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