VALUING ENERGY EFFICIENCY IN THE REAL ESTATE MARKET

2011 Behavior, Energy, and Climate Change Conference

Allison Webster
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MISSION
Accelerate the efficient use of energy in the Northeast and Mid-Atlantic Regions

APPROACH
Overcome barriers to efficiency through Collaboration, Education & Advocacy

VISION
Transform the way we think about and use energy in the world around us.
THE CHALLENGE

US Energy Consumption by Sector

- Buildings 48%
- Transportation 27%
- Industry 25%
- Commercial 17%
- Residential 21%

Source: US Energy Information Administration statistics

Greenhouse Gas Emissions by Sector

- Industry 30%
- Transportation 28%
- Commercial 17%
- Agriculture 8%
- Residential 17%

United States, 2004

AN ‘ENERGY GUIDE’ FOR BUILDINGS

VALUING BUILDING ENERGY EFFICIENCY THROUGH DISCLOSURE AND UPGRADE POLICIES
A ROADMAP FOR THE NORTHEAST U.S.

A DUNSKY ENERGY CONSULTING REPORT
in collaboration with VERMONT ENERGY INVESTMENT CORPORATION

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For NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
under the direction of Ed Shmist, Director of Regional Initiatives

NOVEMBER 2009
BUILDING ENERGY RATING & DISCLOSURE

+ Bill savings
+ Green jobs
- CO₂ emissions

OWNER DISCLOSES ENERGY RATING

Owners invest in energy efficiency upgrades

Market values energy performance

Buyers/renters fully informed

Buyers/renters favor efficient properties
PART 1: MESSAGING.
How much do you agree/disagree with each of these 17 messages:

- 70% agree
  - Energy codes protect homeowners and renters from excessive energy costs
- 71% agree
  - Energy codes would help my energy bills be more affordable and predictable
- 74% agree
  - Energy code standards will help ensure that homeowner and taxpayer dollars are used wisely and efficiently as new buildings will be required to be built right the first time
- 73% agree
  - Homebuilders should not make less efficient homes at consumers’ expense
- 84% agree
  - More energy efficient buildings will reduce energy use and pollution

- 75% agree
  - Energy codes help reduce the need for more power plants in my community
  - Energy codes help stimulate the economy and create green jobs
  - Energy codes help improve indoor air quality

- 82% agree
  - Homeowners should have a right to a home that meets national energy standards
  - Disclosure of a home’s energy usage would enable me to make an informed decision about a new home purchase
  - Energy codes help make homes more comfortable to live in

- 79% agree
  - Homebuilders should not save money on construction by making homes less energy efficient

- Home Builder Arguments
  - Energy codes add to the purchase price of new homes but lower the operating costs
  - Energy codes restrict the amenities of new homes
  - Energy codes add administrative hassle for builders and stall growth of new homes

ENERGY EFFICIENT HOMES
SELLING POINTS

1. Superior quality of construction
2. Year-round comfort
3. Improved air quality
4. Lower energy costs
5. Mortgage savings
6. Higher home resale value potential
VALUING ENERGY EFFICIENCY IN THE REAL ESTATE MARKET

Custom-designed Arts & Crafts style, 3 bedroom, 2 bath fully-equipped, super-insulated, passive solar, grid-tied 6K PV system, sustainable lumber, natural finishes. Beautiful design.

Alna, Maine — Green Home For Sale

- Green Home
- Healthy Home
- Natural Home

Asking Price (US$): $299,000
Annual Property Tax: $3,000
Annual Utility Cost: $120
Home Area: 1,700 ft²
Bedrooms: 3
Bathrooms: 2
Total Lot Size: 2.87 acres
Year Built: 2008

http://www.greenhomesforsale.com/listing.php?id=18970
GUIDANCE AND CHECKLIST FOR REAL ESTATE PROFESSIONALS

• Understanding and selling the benefits of an energy efficient home
• Glossary of home energy efficient attributes
• How to understand energy labels and ratings
• Efficiency Checklist for Home Walkthrough
• Links to additional resources
# Checklist for Real Estate Professionals

<table>
<thead>
<tr>
<th>Types of Equipment</th>
<th>Efficiency Factors</th>
<th>Worth Calling Out</th>
<th>Expected Savings/Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Fixtures</td>
<td># ENERGY STAR Qualified Light fixtures</td>
<td>☐</td>
<td>Use 1/4 the energy of traditional lighting and carry a two year warranty; double the industry standard. ENERGY STAR qualified CFLs generate about 75% less heat. Meaning they are cool to the touch, help reduce home cooling costs, and keep homes more comfortable.</td>
</tr>
<tr>
<td>Lighting controls</td>
<td>Occupancy sensors? How many?</td>
<td>☐</td>
<td>Occupancy sensors are used most effectively in spaces that are often unoccupied, and can reduce lighting energy consumption by 50%.</td>
</tr>
<tr>
<td>Daylighting</td>
<td>Strong daylighting/natural light</td>
<td>☐</td>
<td>Electric lights generate significant heat and by turning off or dimming the lights when not needed, 10% to 20% of the energy used to cool a building can be saved.</td>
</tr>
</tbody>
</table>
HOME ENERGY CODE CHECKLIST:

If you are interested in buying a home or want to learn about the energy code and how to make your home more energy efficient, this checklist provides a quick way to assess energy performance and identify opportunities to improve energy efficiency.

This checklist helps you spot check for national minimum requirements set forth in the 2009 International Energy Conservation code. While this checklist does not include every requirement, it will help you assess a new home and make an informed decision about the quality of construction and the likelihood that the home will use energy efficiently.

**ENERGY CERTIFICATE**
- Energy Certificate located on circuit breaker box is completed and signed. See reverse side for example and more details.

**AIR SEALING**
- All holes between floors and through walls have been sealed with caulk or foam. Examples include:
  - where phone cable wires enter the house
  - where plumbing goes through walls, floors, and ceiling

**THERMOSTAT**
- If a forced air heating system is being installed, the home has a programmable thermostat

**DUCTS**
- Ceiling and walls are insulated, or
- Ducts are sealed and insulated to a

**IN ATTIC**
- A blower door test reveals seven air changes per

**FIREPLACE**
- The fireplace doors are

**INSULATION**
- Crawl space walls and/ or space ceiling are properly
- Access hatch or door is

**WINDOWS**
- Windows and skylights meet requirements for U-factor.
  - Visit: www.efficientwindows.org for minimums in your climate
- EXISTING HOMES: Evaluate windows for age and air tightness

**TESTS**
- Single-pane windows have U-factor of about 1.0, double-pane windows about 0.5 and high-performance double-pane windows about 0.3. Skylights and windows must meet separate U-factors. The solar heat gain coefficient (SHGC) measures how well a window blocks heat from the sun. This is especially important in warm regions.

**PROGRAMMABLE THERMOSTAT**
- Programmable thermostats can generate annual energy savings of 10%. A home with a forced-air furnace heating system must have a programmable thermostat installed, but they are a good idea in almost any home.

**CERTIFICATE REQUIREMENT**
- Builders must attach a permanent certificate on or in the circuit breaker box or electric panel box that lists the materials, equipment values and ratings to demonstrate that the home meets energy conservation code requirements. The certificate is an important means of verifying that the home meets model code requirements. The certificate should not obstruct the visibility of the circuit directory label, service disconnect label or other required labels.

**ENERGY CODE GUIDE cont.**

Visit: [http://www.efficientwindows.org/code_overview.cfm](http://www.efficientwindows.org/code_overview.cfm) to determine the U-factor and solar heat gain coefficient (SHGC) requirements for your area.

- Ask for documentation on the U-factor and solar
RAISING AWARENESS

• Educated and forward thinking real estate professionals
• Homebuyers are provided with credible information
• Energy efficient homes stand out
• Real estate market values energy efficiency
OH, THE POSSIBILITIES...

Over one million ENERGY STAR qualified homes now built nationwide

Sensible Accounting to Value Energy (SAVE) Act

Energy Efficient Home = $10K appraised value*

OH, THE POSSIBILITIES...

- Energy & Cost Savings
- Job Creation
- GHG Reductions
GET THE RESOURCES

NEEP Checklist and Guidance for Real Estate Professionals

Valuing Energy Efficiency through Disclosure

Consumers Union Energy Codes Campaign
http://www.consumersunion.org/energy/codes
THANK YOU

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