About BCAP

- Founded in 1994 as a joint initiative of
  - Alliance to Save Energy
  - ACEEE
  - NRDC
- HQ-ed at Alliance office in DC
BCAP Mission Statement

“BCAP strives to be the premier resource for energy code support, coordination, technical assistance, news and information.

Our mission is to reduce the energy consumed in the construction and operations of buildings by working with national, state, and local governments and other stakeholders to promote the adoption and implementation of building codes and standards.”
Why target consumers?

- Consumers can eliminate the biggest barrier to energy codes – opposition from home builders.

- Builders supply what is demanded.

- Builders claim consumers are not asking for energy efficiency, and won’t pay more for it.
Why target consumers?

- It’s hard to make policy changes without public support;
  - Energy codes viewed as technical/confusing
  - Energy codes called an “unfunded mandate”
  - Big picture home owner and societal benefits not appreciated

- In communities where public support is high, energy codes are easier to adopt

- Providing information is good, but not enough
So... HOW to get consumers involved?

1. Understand their current attitudes / awareness
2. Find out what motivates them
2011 BCAP & Consumers Union – surveyed consumers to learn

1: Which messages resonate?
   • Money saving?
   • Environmental impacts?
   • Quality construction?
   • General benefits?
   • Common arguments against energy codes?

2: Attitudes on specific energy code items?

3: Consumer’s [energy] expectations for new homes?
5,086 Internet respondents—
demographics:

- 50% Males/ 50% Females; Aged 18+; About 2/3 own homes
- Most (79%) purchased their homes more than 2 years ago and don’t have near-term plans to buy another home.
- Most (84%) had an annual HH income of $79K or less.
- Most had ave. mo. energy bills of $100-$199.
- Results broken out into these sub-categories
Respondents were from these regions

Northeast:
- **New England** - ME, NH, VT, MA, RI, CT
- **Mid-Atlantic** - NY, PA, NJ

Midwest:
- **East North Central** - WI, MI, IL, IN, OH
- **West North Central** - MO, ND, SD, NE, KS, MN, IA

South:
- **South Atlantic**: DE, MD, DC, VA, WV, NC, SC, GA, FL
- **East South Central**: KY, TN, MS, AL
- **West South Central**: OK, TX, AK, LA

West:
- **Mountain**: ID, MT, WY, NV, UT, CO, AZ, NM
- **Pacific**: AL, WA, OR, CA, HA
Energy codes are minimum requirements that builders must meet to ensure that homes meet energy efficiency standards.
PART 1: MESSAGING.
How much do you agree/disagree with each of these 17 messages:

- 84% agree
- 71% agree
- 74% agree
- 73% agree
- 70% agree
- 82% agree
- 79% agree
Findings: Key Points for Policymakers

- The public feels that they have a right to a home that meets minimum energy efficiency standards. (82%)

- The public believes that energy codes help ensure that homeowner and taxpayer dollars are used wisely and efficiently by requiring that new homes will be “built right the first time.” (74%)

- The public agrees that energy codes add to the purchase price of a new home and effectively lower monthly operating costs. (69%)
ENERGY CODES

What Policymakers Need to Know

Energy used by buildings accounts for nearly 49 percent of total energy use in the United States—more than either the transportation or industrial sectors.

Energy Codes provide minimum requirements for efficient design and construction for new and renovated residential and commercial buildings. They form part of the overall building code that is adopted by state and local governments.

The current model energy codes are the 2012 IECC (residential and commercial) or ASHRAE standard 90.1-2010 (commercial).

ENERGY CODES ARE GOOD PUBLIC POLICY BECAUSE THEY:

SAVE CONSUMERS MONEY

The average U.S. household spends $2,125 on utility costs per year and the commercial sector spends about $183 billion on energy. Buildings constructed to meet the model energy codes use less energy, which reduces utility bills and puts money back into consumers’ pockets.

HELP STIMULATE THE ECONOMY & CREATE JOBS

Money not spent on energy bills boosts the economy as consumers and businesses can reinvest in other goods and services. In addition, building homes to code strengthens investment in efficient materials and requires quality craftsmanship and labor, which increases overall job growth.

AMOUNT OF ENERGY CONSUMED BY MAJOR SECTORS OF THE ECONOMY

Buildings account for 49 percent of the total energy use in the United States.

Findings: Key Point for Builders

- The public doesn’t accept the argument that amenities of new homes have to be sacrificed in exchange for energy codes compliance. (77%)
Example: For Building Professionals in KY

Energy Provisions of the Kentucky Residential Code

Guide for Professionals

Kentucky UNBRIDLED SPIRIT

Educating building professionals on the 2007 Kentucky Residential Code (KRC).

Complying with the Kentucky Residential Energy Code

While not a complete list, below are a few of the current energy code requirements for homes:

Windows — New or Remodeled Homes. Energy code requirements specify a U-factor for windows and skylights. A U-factor is a rating that indicates how much heat loss the window allows. U-factors generally range from 0.2 (very little heat loss) to 1.2 (high heat loss). Single-pane windows are about 1.0, double-pane windows about 0.5, and high-performance double-pane windows are about 0.3. The required U-factor for Kentucky is 0.40 for new windows and 0.50 for new skylights.

Buidlers should retain window labels or stickers to verify the U-factor for new windows and skylights for potential home buyers. This paperwork can be provided to the homebuyer in addition to other warranty information for appliances and the HVAC system.

Crawl space insulation. Crawl space insulation should be installed or upgraded. Crawl space walls should be insulated and the crawl space should not be vented. Insulation should be installed properly with no gaps and without being squeezed or compressed.

Ductwork should be insulated and sealed. Leaky ducts can be responsible for 10-30% of energy loss in a home.

If the attic ceiling (underside of the roof) and walls are insulated, the code requires that all ducts run through the attic space, they must be insulated to a minimum of R-4.

All ducts and air handlers should be sealed with mastic (a special type of caulk that is easily visible). A sealant is installed. If a sealant is not sufficient, either foil tape or mastic is preferred. They will seal the air tight to help reduce energy waste.

For more information on sealing ducts please visit http://www.epa.gov/energy/makeyourhouse偉.html
PART 2: ATTITUDES.
How much do you agree/disagree with each of the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree completely</th>
<th>Somewhat agree</th>
<th>Somewhat disagree</th>
<th>Disagree completely</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't want my home to be less efficient than other homes in my neighborhood</td>
<td>78%</td>
<td>74%</td>
<td>86%</td>
<td>83%</td>
</tr>
<tr>
<td>I want the most efficient home in my neighborhood</td>
<td>78%</td>
<td></td>
<td>83%</td>
<td></td>
</tr>
<tr>
<td>I want to know a home's energy operating costs before I buy or rent</td>
<td>78%</td>
<td></td>
<td>83%</td>
<td></td>
</tr>
<tr>
<td>If my home is energy efficient, it will have a higher resale value</td>
<td>78%</td>
<td></td>
<td>83%</td>
<td></td>
</tr>
<tr>
<td>I would like to compare my home's energy efficiency to others in my neighborhood</td>
<td>78%</td>
<td></td>
<td>83%</td>
<td></td>
</tr>
<tr>
<td>I would rather pay slightly more for a new home and have more affordable, predictable operating costs and energy bills</td>
<td>78%</td>
<td></td>
<td>83%</td>
<td></td>
</tr>
</tbody>
</table>
PART 3: Expectations: Which are most/least appealing:

- Adequate insulation in attic and walls
- Well-sealed windows and doors
- A Certificate proving a home meets state energy codes
- Sealed fireplace
- Programmable thermostat
- Insulated ductwork
- Insulated pipes
- Energy efficient light bulbs
- Efficient heating and cooling systems
- Energy efficient windows

Most important to save $:
- Adequate insulation in attic and walls
- Well-sealed windows and doors

Should be standard in all new homes:
- A Certificate proving a home meets state energy codes
- Sealed fireplace
- Programmable thermostat
- Insulated ductwork
- Insulated pipes
- Energy efficient light bulbs
- Efficient heating and cooling systems
- Energy efficient windows
Used Findings to Develop Toolkits for Consumers & Advocates

State-customized materials for KY, AL, NE, MO, TX, AK, ID, MI
1. Home Buyer Guide
2. Home Buyer Checklist
3. Homeowner Checklist
4. Professionals Guide

National/Generic materials:
1. Home Buyer Guide
2. Home Buyer Checklist
Leveraging the national work / Customizing for states and jurisdictions

PNNL funded / BCAP created customized advocacy materials for these states:

- Alabama
- Nebraska
- Kentucky
- Columbia, MO
EnergyCodesOcean.org/consumers-take-action

Consumers: Take Action

Consumer Energy Code Resources

Buying a new home or remodeling?
You have a right to an energy-efficient home.

Energy codes are minimum requirements to ensure your home meets minimum energy efficiency standards. Energy codes reduce energy demand, save consumers money, improve comfort, and reduce greenhouse gas emissions.

Energy Code Checklist
Take a quick look to see if a home meets efficiency standards

Interactive Energy Code Guide

86% of homeowners want to know a home's energy operating costs before they buy or rent.
Buying a new home or remodeling?
You have a right to an energy-efficient home.

Energy codes are minimum requirements to ensure your home meets minimum energy efficiency standards. Energy codes reduce energy demand, save consumers money, improve comfort, and reduce greenhouse gas emissions.

- **Energy Code Checklist**
  Take a quick look to see if a home meets efficiency standards

- **Interactive Energy Code Guide**
  Check out the features of a home that meets code

- **Find Your Energy Code**
  A step-by-step guide to finding out the energy code in your location

- **Take Action**
  Spread the word on energy codes to your government official

- **State-specific Resources**
  Materials for consumers in AL, AK, ID, KY, MI, MO, NE, & TX.

Questions or comments about your state or our campaign? **CONTACT US**

86% of homeowners want to know a home’s energy operating costs before they buy or rent.

82% of homeowners believe they have a right to homes that meet national standards.

77% of homeowners think that home builders should not make less efficient homes at the consumer’s expense.

2011 Consumers Union Survey
Duct Leakage Affidavit for New Construction

Post this form on the furnace for inspection and verification by inspector.

Permit 
Address ____________________________

Cond. Floor Area (sq. ft.): ________ Source: [ ] Plans [ ] Estimated [ ] Measured

☐ Duct leakage testing is not required for this residence per exception # ______ listed below.

Air Handler in conditioned space? [ ] Yes [ ] No
Air Handler present during test? [ ] Yes [ ] No

Test Method: [ ] Leakage to Outside [ ] Total Leakage

Maximum duct leakage:
Post Construction, total duct leakage:

(Duct area x 0.08) = CFM/20Pa

Rough-In, total duct leakage with air handler installed:

(Duct area x 0.08) = CFM/20Pa

Rough-In, total duct leakage with no air handler installed:

(Duct area x 0.08) = CFM/20Pa

Test Result: [ ] 1 [ ] 2 [ ] No Pass

Pressure Tap Location: ____________________________

I certify that this duct leakage was measured and determined using Duct Testing Standard 05-24

Company Name: ____________________________ Technician (print): ____________________________

Technician Signature: ____________________________ Date: ____________________________ Phone: ____________________________

International Residential Building Code Compliance:

M103.22 Sealing: All ducts are sealed. Flanges, boots, and building cavities used as ducts shall be sealed.

[Instructions and procedures as per the code]

Exceptions:

1. Duct leakage test is not required if the air handler and all ducts are located within conditioned space.
Kentucky Energy Code Guide

FOR HOME BUYERS

Windows

Energy code requirements specify a U-factor for windows and skylights. A U-factor is a rating that indicates how much heat loss the window allows. U-factors generally range from 0.2 (very little heat loss) to 1.2 (high heat loss). Single-pane windows are about 1.0, double-pane windows about 0.5, and high-performance double-pane windows are about 0.3. The required U-factor for Kentucky is 0.40 for windows and 0.60 for skylights.

Ask the seller or builder for window labels or stickers to verify the U-factor for new windows and skylights.

Some manufacturers label their windows with serial numbers or other data to track down information on the efficiency rating. Look for trademarks and codes etched into the corner of the window glass and/or paper or metal labels that may be attached to the window sill, header, or tracks on the sides. If the builder can’t provide window labels, contact the customer service department of the window manufacturer to confirm the efficiency of the windows.

To learn more about window technology and benefits, please visit the Efficient Windows Collaborative website.
http://www.efficientwindows.org/code_overview.cfm

Energy Performance Ratings

<table>
<thead>
<tr>
<th>ENERGY PERFORMANCE RATINGS</th>
<th>World's Best Window Co.</th>
<th>Milgard 2000P</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-Factor (13°F)</td>
<td>0.30</td>
<td>0.30</td>
</tr>
<tr>
<td>Solar Gain Coefficient</td>
<td>0.30</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Additional Performance Ratings

<table>
<thead>
<tr>
<th>WINDOW SPECIFICATIONS</th>
<th>World's Best Window Co.</th>
<th>Milgard 2000P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible Transmittance</td>
<td>0.51</td>
<td>0.50</td>
</tr>
<tr>
<td>Condensation Resistance</td>
<td>51</td>
<td>—</td>
</tr>
</tbody>
</table>

Double-pane window with an insulated fiberglass frame

A sample window certificate

Air Leakage

Air leakage is responsible for up to 30% of the energy consumed in a home. Insulating the crawl space, the walls, and windows can help reduce energy loss. Look at the floor joists, walls, and window seals for signs of air leakage.

Crawl Space

Look under the house. Either the floor or the crawl space should be insulated or, if the crawl space does not have vents, the crawl space walls should be insulated. Insulation should be attached properly without gaps and without being squeezed or compressed.

Why Do Air Leaks Happen?

Properly sealed and insulated attic spaces and crawl spaces can help reduce energy loss. Air leaks can happen within the building and outside, so it is important to seal all insulation and air barriers, including cracks around the house.
Most homes meet the minimum national energy standard.

For more materials and information visit:
http://www.adea.alabamagov/C0/codes

These are illustrations of the energy certificate that can be found on or near the circuit breaker box (i.e. electrical panel box) that lists the materials and equipment ratings to demonstrate that a new home meets energy code requirements.
Energy Efficient Lighting. The residential code requires that the builder put high efficiency light bulbs (such as compact fluorescents) in at least 50% of the lighting fixtures that are hard wired into the home. Some examples include lighting in kitchens and bathrooms, recessed lighting, hallway lights, and exterior lights next to the front door and garage door.

Windows – New or Remodeled Homes. Windows and doors can be responsible for 18-20% of energy loss in a home. Energy code requirements specify a U-factor for windows and skylights. A U-factor is a rating that indicates how much heat loss the window allows. In Alabama, they are:

<table>
<thead>
<tr>
<th>Window U-Factor</th>
<th>Skylight U-Factor</th>
<th>Solar Heat Gain Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baldwin &amp; Mobile Counties</td>
<td>0.65</td>
<td>0.75</td>
</tr>
<tr>
<td>All Other Counties</td>
<td>0.50</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Check the access hatches/doors for attics. These can be a major source of air leakage in the home, creating high utility bills and sending your cool air up to the roof in the summer. Hatches and doors to the attic should be weather-stripped and insulated. They should be well-made so that they are airtight.

Insulation: check under the house and get to know the crawl space. Either the floor over the crawl space should be insulated or (preferred) the crawl space should not have vents. Insulation should be attached securely without gaps.

Look for sources of air leakage. Air leakage is responsible for 30% or more of total energy loss. All joints, seams and penetrations between the inside and outside of the home must be sealed. Typically, caulk, spray foam or is used to seal air leaks.

Fireplaces. Generally speaking, fireplaces often reduce the energy efficiency of a home. The energy code requires that the doors of wood-burning fireplaces have gaskets to reduce air leaks.

Ducts must be insulated and testing may be required. Leaky ducts can be responsible for 10-30% of energy loss in a home. Check the attic to see if the ceiling and walls are insulated. If not, the ducts should be insulated to an R-4 value. Other ductwork throughout the home should be sealed with mastic, a type of caulk. After July 1, 2013, the code requires that the entire duct system be tested for air tightness if any part of the ductwork is located in an uninsulated crawlspace, attic, or garage.

Energy Certificate. (Voluntary) Energy Certificate located on circuit breaker box (i.e. electrical panel). It is designed to be signed.

Insulation certificate requirement. The code provides added protection for home buyers when insulation is blown or sprayed into walls and ceilings. Builders must provide a certificate listing the type, manufacturer and R-value (a measure of the material’s performance) of the:

<table>
<thead>
<tr>
<th>Ceiling R-Value</th>
<th>Wood Frame Wall R-Value</th>
<th>Floor R-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baldwin &amp; Mobile Counties</td>
<td>30</td>
<td>13</td>
</tr>
<tr>
<td>All Other Counties</td>
<td>30</td>
<td>13</td>
</tr>
</tbody>
</table>

85% of homeowners believe they have a right to homes that meet national standards.

Energy codes save money and resources, but they also serve as a good indication of quality construction.

If a home is built to code, it generally means the home will be comfortable to live in and affordable to heat and cool.

87% of consumers want to make informed decisions before purchasing a home, such as knowing the home’s energy use.

Find more materials at: http://www.adcga.alabama.gov/CO/codes

Statistics provided by the Consumer Reports National Research Center, 2011
BCAP Outreach to Consumers in MI, AK, TX, PA

- **Paid media** (paid ads on Zillow, Facebook)
- **Earned media** (news releases; attempted radio interviews with NPR)
- **Other outreach:** Asked organizations to forward email or print a newsletter article

**We did not:**
- Do direct outreach (direct mail, door hangers)
- Reach out to real estate agents (MLS)
- Radio PSAs
Using Social Media: Facebook and Twitter

- Ads ran April 11 - May 31, 2012
  - 2,619,988 impressions; 652 clicks

- Ads ran June 4th to July 31st
  - 5,439,107 impressions; 2,762 clicks

- 17 twitter posts
  - 119,995 impressions; 450 clicks
  - 22 Re-tweets
  - 450+ people visited website
8 Facebook Posts

- 16,182 Unique Users; 28,882 total impressions
- 358 “Likes”; 13 comments
- 35 Shares to other User’s pages
- 678 Clicks to BCAP website
Paid Ads: Zillow

- Zillow: 38 M unique visitors/mo (home buyers)
- Ave. time visitors spend at site: 17.5 min
- Ads ran Aug 8-26, 2012
- About 1 million impressions; 1,700 clicks to BCAP website
BCAP web traffic results

Consumer Portal
Hits by Month

Consumer Portal
Visits October 2011-September 2012

2,529 visits  2,199 (82%) unique visitors  2.92 pages /visit  2:48 avg. time/visit
Getting Media: Key Insights

- Traditional media is difficult to secure without a newsworthy topic.

- The topic of energy codes by itself may not be covered, but there are ways to increase the odds of coverage.

- "Energy codes" can accompany a topic that has a current, and timely news value.

- You must have a news "hook".
Possible News Hooks

- Code update is being considered
- Rise in energy prices
- Rise in number of ENERGY STAR new homes
- Energy prices going up
- Horror story of a home buyer / owner with an inefficient home
Home Energy Code Check List

If you are interested in buying a home or want to learn how to make your home more energy efficient, use this checklist to help you meet energy performance and identify opportunities to improve.

This checklist helps you spot check for national minimum 2009 International Energy Conservation Code (IECC). With every requirement, it will help you assess a new home, discuss the quality of construction and the likelihood of energy consumption.

- **Energy Certificate**
  - Energy Certificate is issued on a certificate, and any exception to be completed and signed before the city can be issued.

- **Air Sealing**
  - All holes between floors and through walls have been sealed with caulk or foam. Examples include:
    - All pipes are isolated and sealed around the basement,
    - Where pipes go through the roof, and around

- **Thermostat**
  - A forced air heating system is being installed, the home has a programmable thermostat.

- **Ducts**
  - Insulation: ceiling and walls are insulated, air ducts are sealed and insulated to a value of R-3
  - Design: seven current homes

- **Windows**
  - All windows are sealed with sealing

- **Lighting**
  - At least half of the home's light fixtures have high efficiency lights

BUYING A NEW HOME?
REMODELING?

You could be buying a home that will be uncomfortable and waste money!

With colder weather coming, you may be spending less on utility bills and uncomfortable drafts in your home.

When homes are built or remodeled, builders are supposed to construct them according to regulations set by energy codes, which are minimum requirements for energy efficiency. Energy efficient homes use less energy, resulting in fewer utility bills and a more comfortable home, as well as environmental benefits. A home built to the energy code can save you $500 a year.

Talk to your designer. Make sure your home meets the state or local energy code.

For more information on home energy efficiency and to see if your home meets the code, please visit greenerfuture.org.
Real Estate Agents

- Northeast Energy Efficiency Partnership offers materials for real estate professionals
  - Brochure
  - Checklist
Outdated energy codes lead to uncomfortable homes

At that sweet spot, for the average sized new Houston house, extra insulation and such would cost around $1,600. Less than 1 percent of the average homeowner’s bills would be about $21 less. In only 27 months, the energy saved would continue for as long as the house stands.

A $200 savings per month could be how much insulation has to be added to the attic to make the house more efficiently light bulbs and save energy.

Texas and the Energy Code...
Thank You!

Maria Ellingson, Senior Program Manager
Building Codes Assistance Project
Toledo, Ohio
419-724-4571 | mellingson@ase.org
Group Feedback

1. Ideas for improving printed materials?
2. Ideas for dissemination?
3. Other feedback on consumer outreach?
4. Your news stories on energy codes?