

# 2012 IECC

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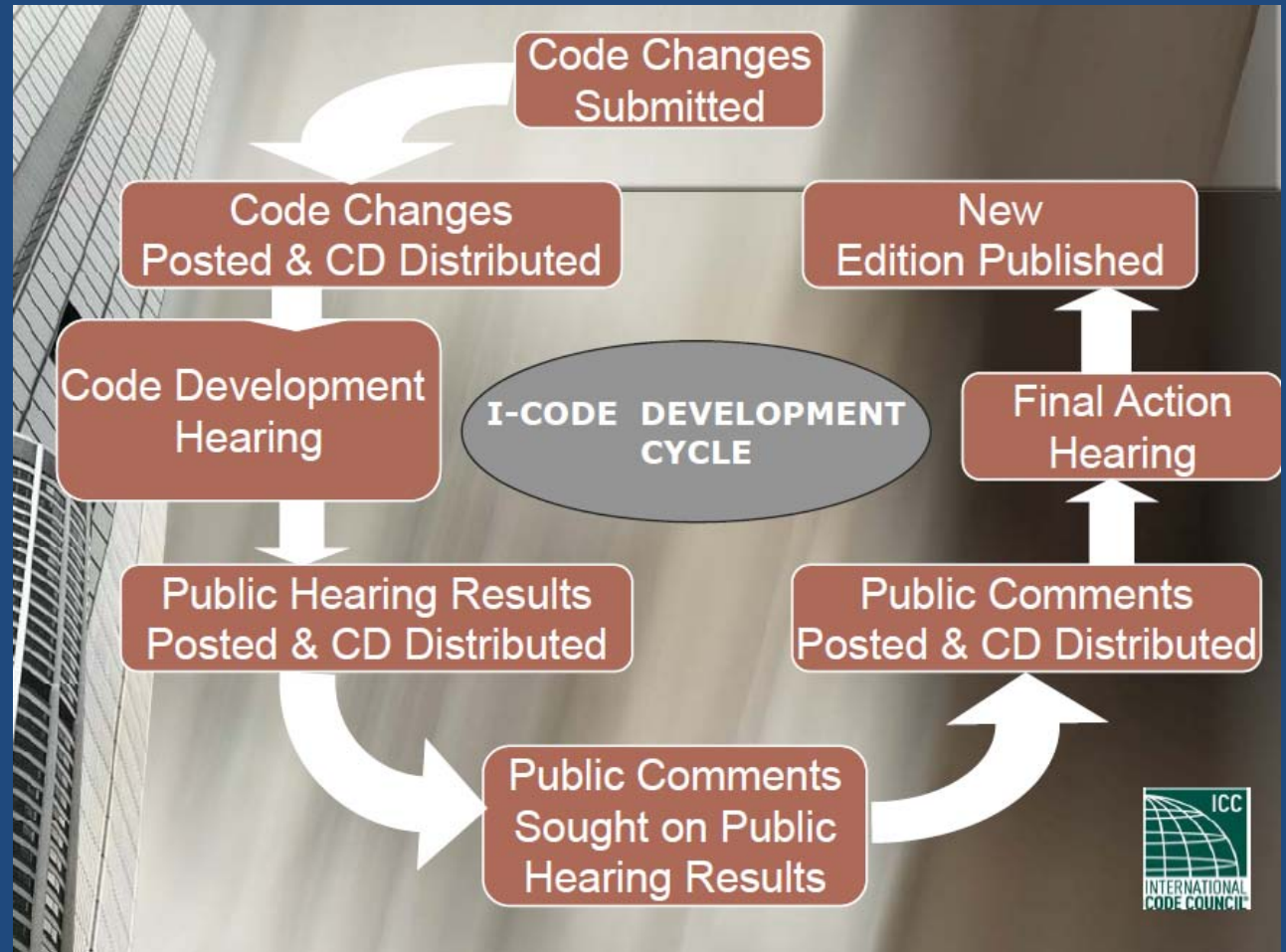


November 28, 2012

# International Code Council (ICC)



- Responsible for development of model codes
- 3-year development cycle
- Open to all parties
- At least 1/3 of each committee is regulators

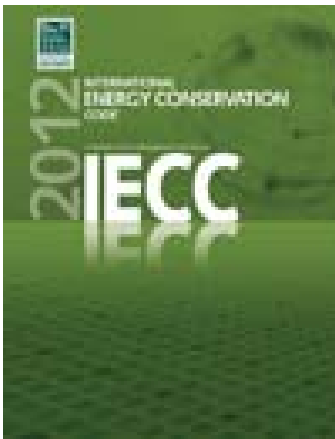
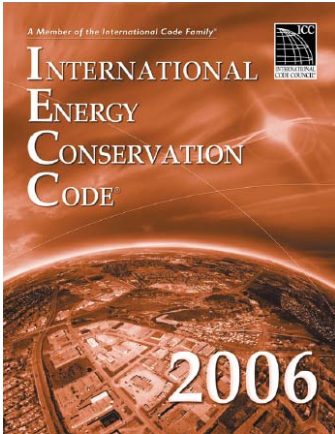


# International Code Council (ICC)



- 15 model codes
- 1 (or more) committees for each code
- Energy is addressed in the **International Energy Conservation Code (IECC)**
  - 1 committee each for resid./commercial
- International Residential Code (IRC) copies residential provisions from the IECC
- All codes are coordinated to avoid conflict and redundancy
- Result is a well vetted code

# Energy Codes in MD, VA and DC



## Maryland: (auto adoption on 3-year cycle)

- 2012 IECC adopted
- 2012 IgCC adopted as optional code

## Virginia: (3-year cycle ~1-year after ea. edition)

- 2009 IECC adopted
- 2012 IECC and IgCC under consideration

## DC: (~3-year cycle as authorized by CCCB)

### Residential:

- 2006 IECC w/ amends =2009 IECC
- 2012 IECC under consideration

### Commercial:

- 2006 IECC/ASHRAE 90.1-2007
- 2012 IECC and IgCC under consideration

# Significant Changes— potential issues

## RESIDENTIAL

- Wood frame wall R-value
  - R-20 or R-13+5 ci.
  - 2x6 wall or 2x4 + foam (prescriptively)
  - UA compliance option! (next slide)
- Mandatory duct and envelope tightness testing
  - no more visual inspect option
  - Implementation!!
- Eave baffle
  - in attic where insul installed on ceiling
  - simple low cost options to comply are available (foam and cardboard)



# UA Alternative using REScheck

Compliance: **Passes using UA trade-off**

Compliance: **0.0% Better Than Code**      Maximum UA: **324**      Your UA: **324**      Maximum SHGC: **0.40**      Your SHGC: **0.40**

The % Better or Worse Than Code index reflects how close to compliance the house is based on code trade-off rules.

It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Glazing or Door U-Factor	UA
Wall: Wood Frame, 16in. o.c. Orientation: Unspecified	1844	1 13.0	0.0		119
Window: Vinyl Frame, 2 Pane w/ Low-E SHGC: 0.40 Orientation: Unspecified	336			2 0.300	101
Door: Solid Orientation: Unspecified	60			0.350	21
Ceiling: Flat or Scissor Truss	1200	3 21.0	29.0		24
Basement: Solid Concrete or Masonry Orientation: Unspecified Wall height: 8.0' Depth below grade: 8.0' Insulation depth: 8.0'	1200	0.0	4 12.0		59

**Yes, energy code compliance with a 2x4 wall is still possible!**

## Difference from Prescriptive path:

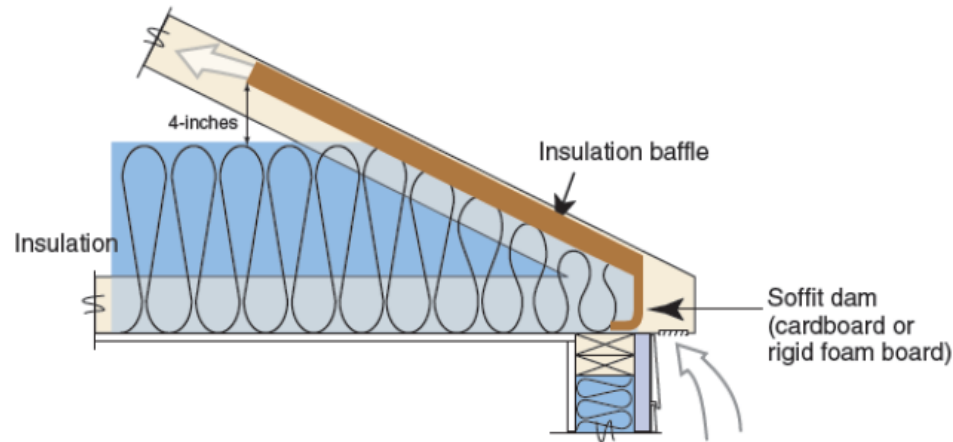
1. R-13 walls w/ no continuous foam insulation
2. U-0.30 windows instead of 0.35
3. R-50 instead of R-49 attic insulation
4. R-12 instead of R-10 continuous insulation on basement walls

# Attic insulation details (eave baffles)

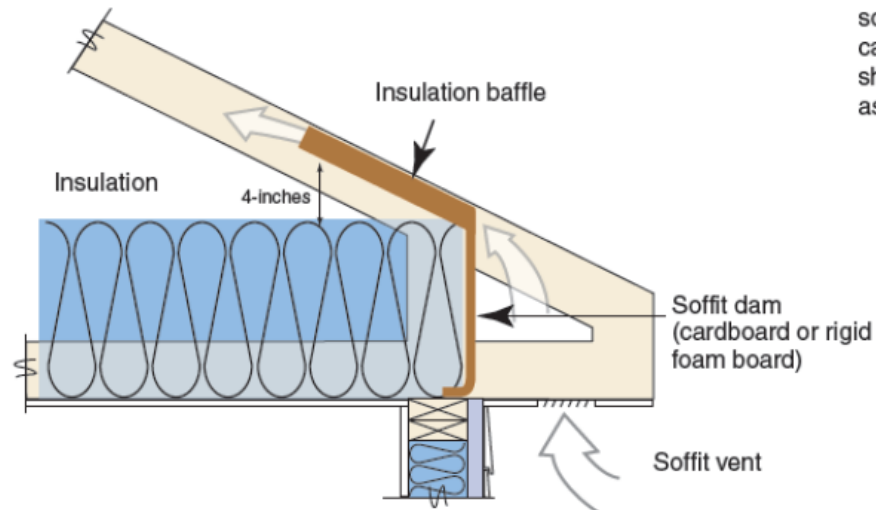
## Insulation Details for Ceilings with Attic spaces

Rafter and Truss

**Standard Truss**  
with tapered  
insulation depth



**Energy Truss**  
with full height insulation  
(recommended)



**Note:** Wind wash baffle and air-permeable insulation dam. For air permeable insulation in vented attics, baffles shall be installed adjacent to soffit and eave vents. A minimum of a 1-inch of space shall be provided between the insulation and the roof sheathing and at the location of the vent. The baffle shall extend over the top of the insulation inward until it is at least 4 inches vertically above the top of the insulation. Any solid material such as cardboard or thin insulating sheathing shall be permissible as the baffle.



# Residential Cost Effectiveness of 2012 IECC

**When comparing the 2009 VA Code to the 2012 IECC**

	Consumers' Cash Flow (Average)	2012 IECC
A	Down payment and other up-front costs	\$215
B	Annual energy savings (year one)	\$388
C	Annual mortgage increase	\$117
D	Net annual cost of mortgage interest deductions, mortgage insurance, and property taxes (year one)	-\$1
$E = [B - (C + D)]$	Net annual cash flow savings (year one)	\$272
$F = [A / E]$	Years to positive savings, including up-front cost impacts	1

**Adoption of the 2012 IECC will save homeowners an average of 27% on energy bills!**

<http://www.energycodes.gov/sites/default/files/documents/VirginiaResidentialCostEffectiveness.pdf>

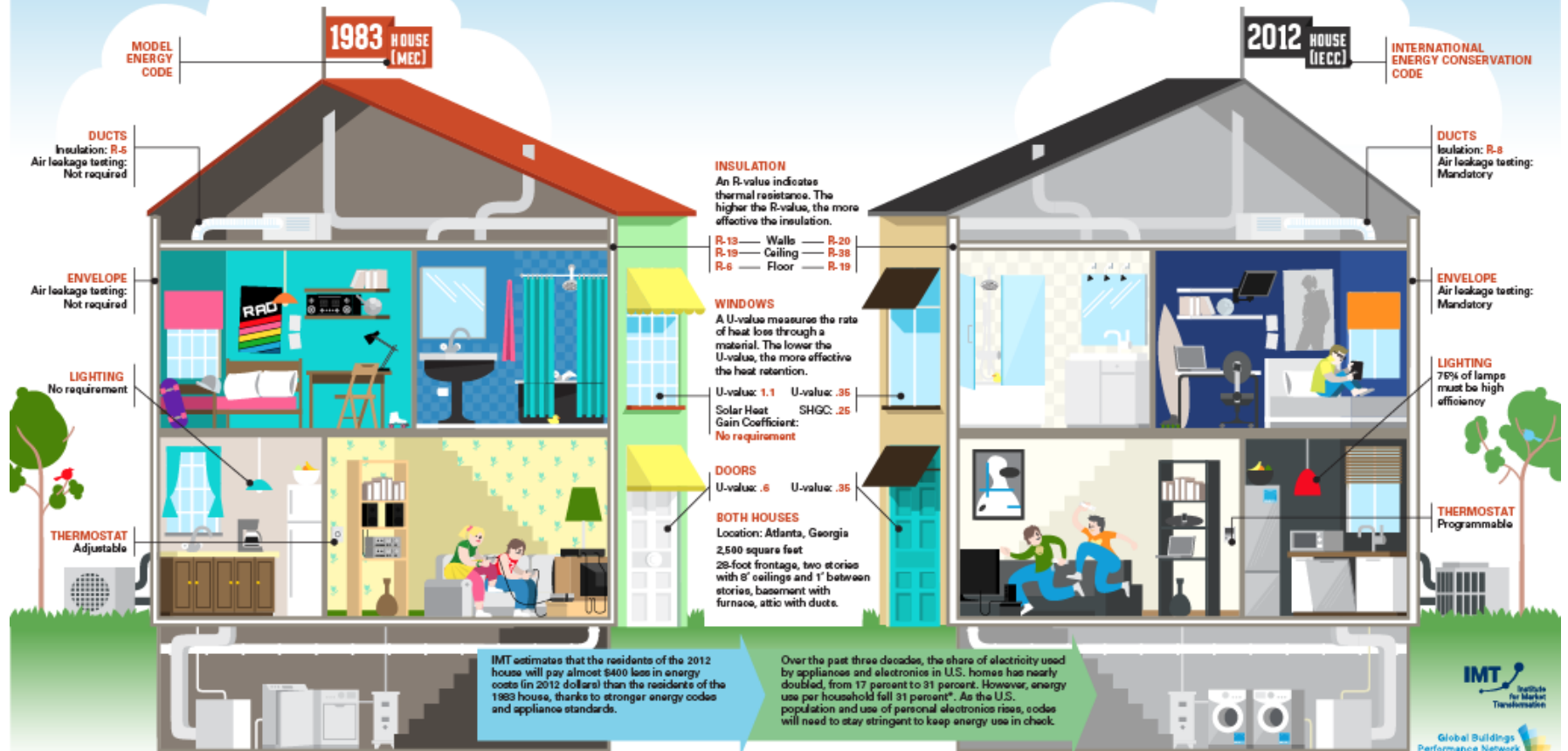


# The evolution of residential energy codes...

## HOW ENERGY CODES MAKE HOMES MORE EFFICIENT

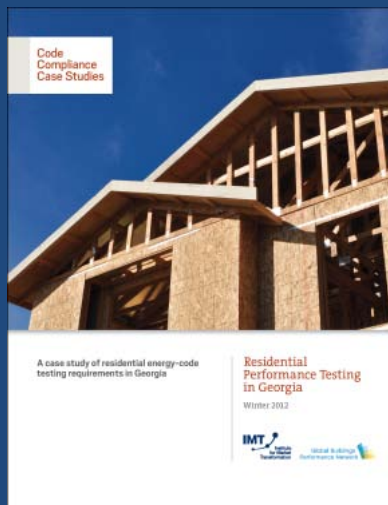
Household energy use is lower than it was in the '80s, even as we buy up PlayStations and iPhones. Why? Thank stronger energy codes.

Building energy codes set minimum legal standards for the energy efficiency of new homes. That's good for the environment because it lowers carbon emissions, and also good for Americans' bank accounts. Homes built to stronger codes are up to 44% more efficient and can save a family hundreds of dollars a year on energy costs. The two hypothetical properties depicted below—a 1983 house and a 2012 house—show the evolution of an average home and a side-by-side comparison of how energy codes make a surprising difference in home energy efficiency.



# Compliance is equally important as adoption!

## IMT has 5 best practice case studies for local governments.



Download all 5 case studies for free at:

<http://www.imt.org/codes/code-compliance>

# Thank You

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