

2006 IECC Update



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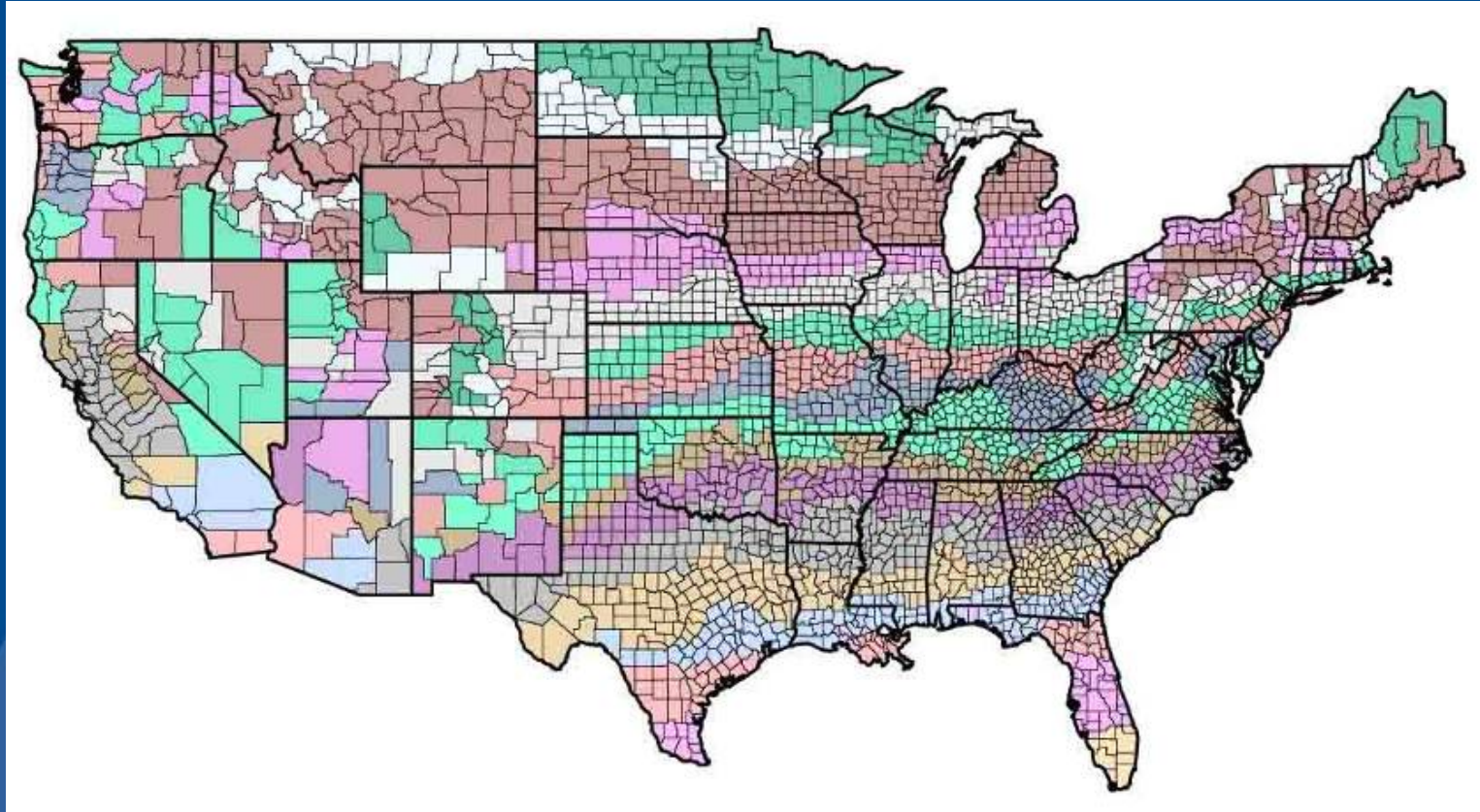
2006 IECC Overview

- Highlights
- NJ and PA Differences
- Compliance Tools
- Energy Star Homes
- Other Voluntary Initiatives

Code History

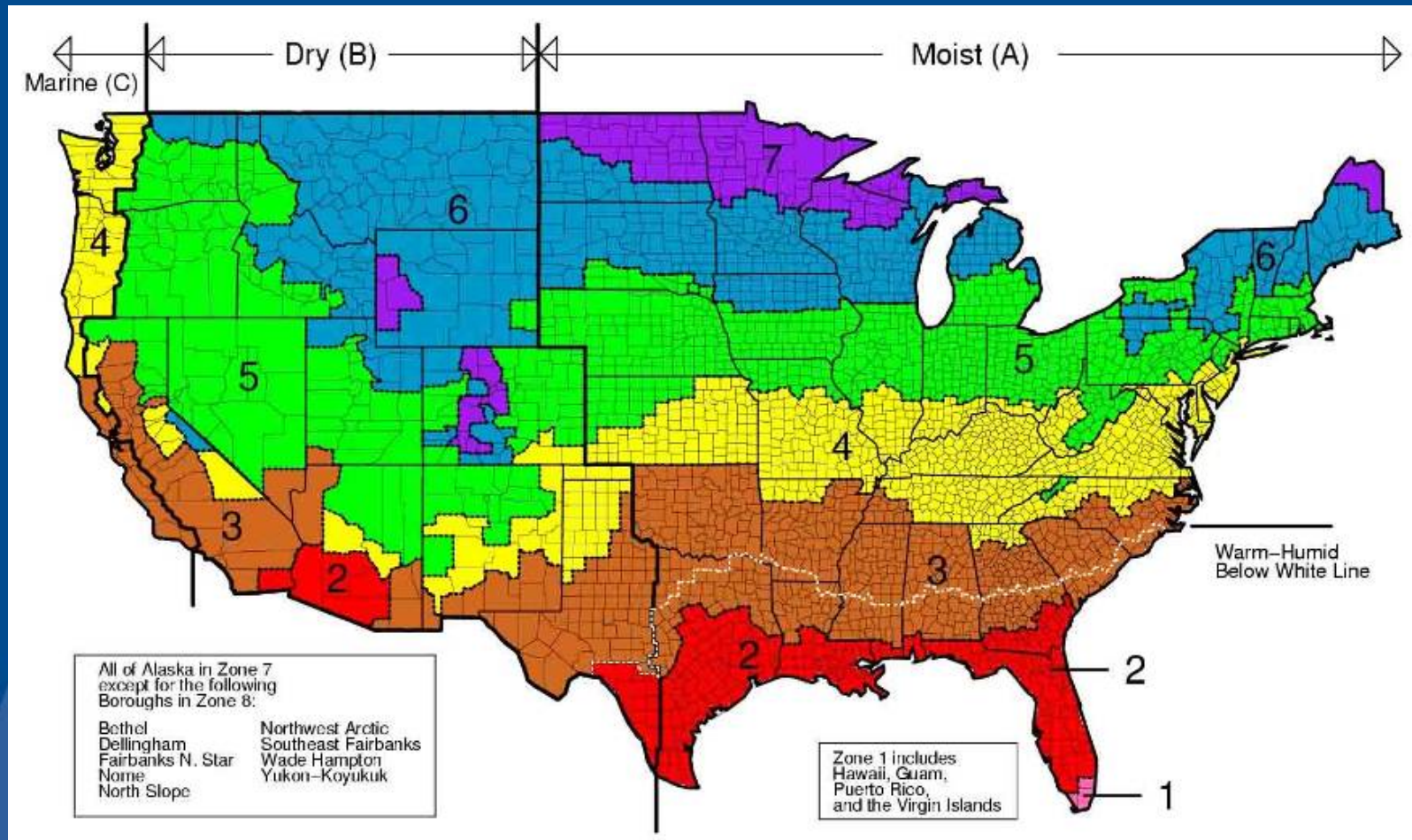
- Previous PA Code: 2003 IECC – 2006 IECC adopted January 1, 2007
- Previous NJ Code: 1995 MEC – 2006 IECC (with amendments) mandatory for permits submitted beginning August 20, 2007

2003 IECC Climate Zones



19 Zones – Incremental Changes

2006 IECC Climate Zones



8 Zones – Larger Changes

2006 IECC Highlights

- UA Tradeoff or Simulated Performance Alternative paths compare builder design to “reference”
- Zone 5 “reference” has R-19 walls, R-10 slab edge, U=0.35 windows, R-38 ceilings, R-30 floors, R-10/13 foundation walls
- Zone 4 “reference” has R-13 walls, R-10 slab edge, U=0.40 windows, R-38 ceilings, R-19 floors, R-10/13 foundation walls
- NJ Compliance = 2003 IECC +2%

2006 IECC Highlights (cont.)

- Maximum average window U-factor for Zones 4 and 5 of 0.48 eliminates most standard insulated windows (not in NJ)
- R-8 ducts in unconditioned space (R-6 in floor trusses)
- Duct Sealing with Mastic or UL181 tape
- More Extensive Air Sealing Requirements – behind tubs, kneewalls, soffits, garage separations, party walls
- Floor insulation in permanent contact with surface above

Compliance Tools

RESCheck Version 4.0.1 (www.energycodes.gov)

- Can be used for UA tradeoff just like older versions
- Window orientation required when high efficiency HVAC equipment is required
- Home orientation changes compliance

Compliance Tools

REM/Design (www.archenergy.com)

- Analysis method traditionally used for HERS ratings
- Additional features include operating cost analysis for heating, cooling, hot water and appliances



Missing ceiling insulation

Energy Code Comparisons

- Three House Types
- Typical Energy Specifications
 - R-13 Walls, R-30 Ceilings and Floors
 - Low E Windows
 - R-10 Basement walls or R-5 Slab on Grade
 - 90% Furnace/13 SEER Air Conditioner
- Zones 4 and 5
- 1995 MEC, 2003 IECC + 2%, 2006 IECC

Energy Code Comparisons

Building Type	Stories Above Grade	Foundation Type	Climate Zone	Percentage Above Code		
				1995 MEC	2003 IECC + 2%	2006 IECC
Townhouse - Inner	2	Slab	5	38.9%	36.7%	-9.1%
Townhouse - Inner	2	Slab	4	39.0%	37.0%	9.0%
Single Family - Active Adult	1	Slab	5	14.1%	10.0%	-4.5%
Single Family - Active Adult	1	Slab	4	21.2%	16.4%	1.1%
Single Family - Detached	2	Basement	5	23.0%	17.7%	-2.9%
Single Family - Detached	2	Basement	4	29.6%	24.4%	0.6%



ENERGY STAR® Homes

- Officially recognized in NJ as a code compliance option
- 15% more energy efficient than 2004 IECC
- Program enhancements include
 - Maximum duct leakage standard
 - Thermal bypass inspection checklist
- Incentives Available in NJ and NY

Other Voluntary Initiatives

- Solar Tax Credits
 - Photovoltaics and Solar Hot Water Systems
 - Federal Tax Credit 30% of system cost up to \$2,000 per system until 12/31/07
- Energy Tax Credits
 - \$2,000 available per home until 12/31/07
 - 50% reduction in heating and cooling from 2004 IECC documented by HERS rating
- www.energytaxincentives.org