



NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS

PREPARING FOR THE 2012 RESIDENTIAL IECC IMPORTANT CHANGES

HERS TRAINING WEBINAR

Center For Ecological Technologies

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Don Vigneau, AIA

NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS

“Accelerating Energy Efficiency”



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.

WHAT DOES NEEP DO?



FACILITATE PARTNERSHIPS...



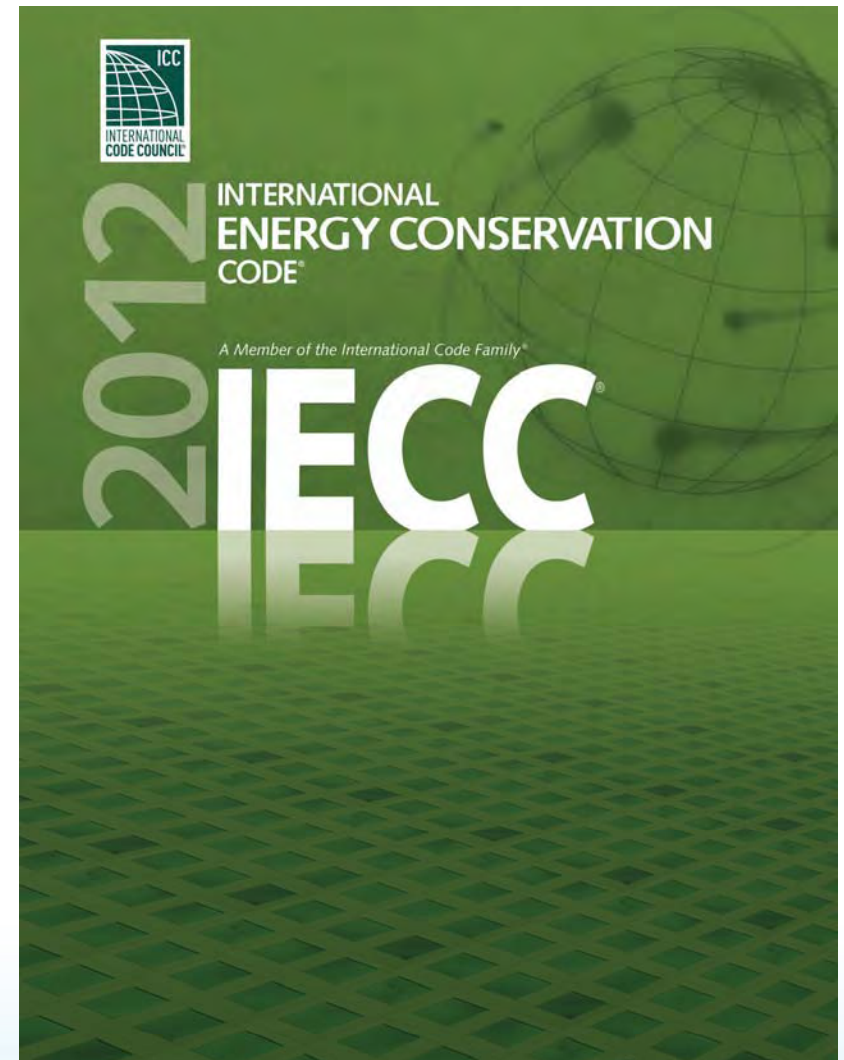
TO ADVANCE ENERGY EFFICIENCY

IECC 2012 ENERGY CODE RESIDENTIAL CHANGES



Four Principal Areas

- ENVELOPE
- MECHANICAL / HOT WATER
- LIGHTING
- PERFORMANCE ALTERNATIVE





Residential Provisions of the 2012 International Energy Conservation Code

July 2011

SUMMARY OF SIGNIFICANT CHANGES



- Thermal performance : walls/roof/floors; windows/skylights
- Reduced allowable air leakage: envelope, duct systems
- Mandatory air leakage testing 3 ACH 50 Zones 3-8
 - Mandated supply air for dwellings < 5 ACH 50 (R303.4)
- Updated HVAC reference standards (ACCA Manuals J, S)
- Lighting increased to 75% H/E luminaires
- RESULTS ARE 15-18% BETTER THAN 2009

ENVELOPE IMPROVEMENTS



- Higher insulation values - T402.1.1
- Lower glazing factors - T402.3 & R402.3.5
- Reduced air leakage - T 402.4.1.1
(& mandated testing)
- Average U-factor/
SHGC maximums
- R402.5 returns



THERMAL ENVELOPE CHANGES



CHANGES	2009	2012	ZONE	COMMENTS
Main Envelope	Table 402.1.1		Westchester, Long Island, NYC – Zone 4	
Glazing	0.35	0.32	4,5,6,7	Table R 402.1.1
SHGC	N/R	0.40	4	“
Skylights	0.60	0.55	4,5,6,7	“
Ceilings	R 38	R 49	4,5	“ eave baffles R 402.2.3
Walls	R 13	R 20	4	“
	R 20	(same)	5	“
	R 20	R 20+5	6,7	“
Bsmt/Crawl	R 10/13	R 15/19	5	“
Sunrooms				Section 402.3.5
-Glazing	0.50	0.45	(all)	“
- Skylights	0.75	0.70	(all)	“

HVAC / SHW IMPROVEMENTS



Equipment & Systems

- Direct reference to ACCA Manuals S & J - (M1401.3)
- Air handlers to have air leakage of $\leq 2\%$ design air flow rate per ASHRAE 193
- Whole-house ventilation required where air leakage test is less than 5 ACH 50 (R303.4 - references Ch.14)
- H/W pipe insulation - R403.4

DUCT TESTING CHANGES



- Test leakage now 4 CFM/sf floor area (was 8 & 6 CFM)
- Exception (same)
 - systems within *thermal envelope*



LIGHTING EQUIPMENT



- Minimum of 75% H/E luminaires (lamps)



RE-THINKING AIR SEALING: PERSONAL EXPERIENCE



- Eliminating customary vapor retarder layer
- Sealing wall/roof sheathing joints/seams w/3" tape from foundation to ridge
- Use c.i. insulation outside, per Table 702.7.1
- Air tested at 20% leakage of conventional home
- Requires HRV ventilation





VIGNEAU RESIDENCE



THANK YOU

2012 RESIDENTIAL ENERGY CODES UPDATE AND COMPARISON

DON VIGNEAU, AIA
dvigneau@neep.org

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91 Hartwell Drive Lexington, MA 02421

P: 781.860.9177 x136

www.neep.org