NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS

LOOKING AROUND: AN OVERVIEW OF BUILDING CODES POLICY IN THE EM&V FORUM REGION

Presented by

JIM O'REILLY

September 28, 2010

To the NEEP Workshop: Roadmap to Claiming Savings from Building Energy Codes and Appliance Standards

WHY CODES AND STANDARDS ARE HOT

- EFFICIENCY BEING IDENTIFIED AS PRIORITY RESOURCE
  - Affordability, climate, reliability and economic development
- AGGRESSIVE NEW GOALS BEING SET IN STATES
  - For energy, emissions or both, with new resource priorities mandated and funding set at historic levels
- IDENTIFIED NEED TO GO BROADER, DEEPER
  - All fuel, whole building approaches
  - New program strategies
  - Better coordination with other public policies, like codes/standard
  - Recognition of the market value of energy efficiency
  - Codes and standards are very cost-effective
- CODES EMPHASIS IN ARRA, STANDARDS BY NEW DOE

BUILDING ENERGY CODES – THE LATEST

IECC 2009

- Approved September 2008; state adoptions occurring now
- Improvements to efficiency, but very contentious process
  - DOE just issued affirmation of residential savings

ASHRAE 90.1 2010

- Updating expected to be completed this fall
  - Goal is 30 % greater efficiency than 2004
- Also working on advanced buildings guideline 'Standard 189' in concert with International Green Construction Code (IGCC)

THE ROAD TO 'NET ZERO BUILDINGS'

- DOE urging code updates to meet milestones toward NZEB
- 'Marketable' zero energy homes by 2020, zero energy commercial buildings by 2025
  - Efficiency gains of 60-70 %, with balance from renewables

BUILDING ENERGY CODES – THE LATEST

AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA)

- Conditioning language for SEP grant eligibility:
  - ✓ Adopt 2009 IECC (residential)
  - ✓ Adopt 2007 ASHARE 90.1 (commercial)
  - ✓ Develop plan to achieve 90 percent code compliance within eight years

- Some states have enacted legislation demonstrating ARRA code requirements (VT, RI, DE)
- Many using ARRA SEP funds – at varying levels – to develop/enhance code training (NH, MA, CT, RI, ME, NY)

STATUS OF ENERGY CODES

STATE	RESIDENTIAL	COMMERCIAL	LATEST UPDATE	CYCLE	RESPONSIBLE STATE AGENCY
Connecticut	2006 IRC	2006 IECC	Late 2011 IRC &IECC 2009	Not more than every 4 years	Department of Public Safety
Delaware	2009 IECC	2009 IECC Supplement (ASHRAE 90.1-07)	Effective July 1, 2010	No Schedule	Delaware Energy Office
District of Columbia	2006 IECC with '30%' amendments	ASHRAE 90.1-2007 with amendments	Effective Oct 8, 2008	Every 3 years	D.C. Energy Office
Maine	2009 IECC	2009 IECC	Adopted Jun 1,2010 Effective Dec 1,2010	Every 3 years	PUC
Maryland	2009 IECC	2009 IECC	Effective Oct 1,2009	Every 3 years	Dept. of Housing and Community Development
Massachusetts	2009 IECC	ASHRAE 90.1-2007 or 2009 IECC	Effective July 1,2010	Every 3 years	Board Of Building Regulations and Standards
New Hampshire	2009 IECC	2009 IECC	Effective 4/1/2010	Every 3 years	PUC
New Jersey	2006 IECC	2006 IECC or ASHRAE 90.1-2004	Adoption of 2009 on hold Fall 2010???	Every 3 years (overdue)	Department of Community Affairs
New York	2009 IECC w/NY Amendments (Pending)	ASHRAE 90.1-2007 (Pending)	Dec 2010	Every 5 years	Department of State
Pennsylvania	2009 IECC, 2009 IRC or PA Alt.	2006 IECC or ASHRAE 90.1-2007	Effective Dec 31,2009	Every 3 years	Dept. of Labor and Industry
Rhode Island	2009 IECC	2009 IECC	Effective July 1,2010	Every 3 years	Department of Administration
Vermont	2009 IECC w/VT amendments (Pending)	2009 IECC w/VT amendments or ASHRAE 90.1-2007 (Pending)	Jan 2011	Every 3 years	Department of Public Service

A CLOSER LOOK: CONNECTICUT

CODE UPDATE PROBLEMS: LEED AS CODE (ENACTED 2007)

- Not written as, administered as or enforceable as code
- Implementation issues set code update process back

DPUC ORDER 2010 C&LM PLAN

CODES: *"The Department will direct the Electrical Distribution Companies (EDCs) to significantly increase the standard educational offerings [for codes] during 2010..The Department allocates up to $250,000 …from the 2010 ECB budgets to be directed for this purpose."*

STANDARDS: *"The Department directs the EDCs to allocate up to $200,000… to promote stricter appliance and electronic standards through the proper venue(s): CEC, NEEP, the federal ENERGY STAR program or a trade ally association. This effort would likely take the form of providing technical support or leading a workgroup(s) to establish energy usage and/or performance standards."*

For 2011: "Submit… a savings attribution methodology to ascribe savings from more stringent codes and standards for consumer appliances and electronics as discussed for the ECMB…"

A CLOSER LOOK: VERMONT

CODE ADOPTION

- Adoption of 2009 IECC (residential and commercial) as RBECS still pending; contractor, steering committee engaged
  - Two codes/split jurisdictions complicates matters
  - Fire Marshal role means NFPA codes given weight, w/o appropriate ties to building systems

CODE COMPLIANCE

- 2008 NMB baseline study: 72 % non-program homes comply
- Virtually no residential enforcement at local level
- Code coordinator envisioned as part of EVT '11 plans
  - Provide assistance/education to builders, local officials, lenders, real estate interests, et al

LINKS TO SBC PROGRAMS

- Discussions underway on how to attribute savings

A CLOSER LOOK: NEW YORK

CODE ADOPTION

- Update to 2009 IECC/AHSRAE 90.1-2007 pending (12/10)

CODE COMPLIANCE

- Comprehensive ARRA-funded code training in development

OTHER

- DOS responsible for both codes and appliance standards regulations, including pending consumer electronics (TVs) standard
- NYSERDA assistance sought/offered, but regulatory approval needed
- Stretch codes adopted on LI – program relations, savings issues resulting

A CLOSER LOOK: WASHINGTON, D.C.

LEADING BY EXAMPLE – PUBLIC BUILDING STANDARD

- Green Buildings Act (2006) - LEED requirements for government buildings, later extending to new construction

BUILDING ENERGY RATING

- Clean and Affordable Energy Act (2008) – requires benchmarking public disclosure of commercial buildings

BEYOND CODE

- 2008 legislation called for several beyond code measures:
  - ’30 % Solution’ – Residential code 30 % more efficiency than 2006 IECC
  - Additional ‘green’ building requirements: cool roofs, on-site stormwater retention, low-flow plumbing fixtures.
  - Had sought ASHRAE Standard 189.1; foregone to due delays
- New interest in enhanced training

OTHER

- District’s Sustainable Energy Utility (SEU) , third-party, ratepayer funded EE supplier, overseen by Energy Office. Much still TBD.

A CLOSER LOOK: MAINE

AGGRESSIVE CODE INITIATIVES

- 2008 legislation: First ever mandatory uniform statewide Building Energy Code, effective June 1, enforceable Dec. 1
- Automatic updates to latest IECC
- Authorizes third-party energy code inspectors (in development)

MEASUREMENT

- 2009 legislation directs PUC to develop standardized rating system for building energy efficiency and carbon performance.
- During inaugural Triennial Plan period (July 1, 2010 – June 30, 2013) Efficiency Maine Trust will begin implementing rating system in its programs.
- Will also work on future legislation supporting rating/disclosure.

A CLOSER LOOK: MASSACHUSETTS

STRETCH CODE ADOPTION

- First in the nation, local option code, approved by state, offering ~ 20 % better efficiency
- Based on NBI Core Performance (commercial) and ENERGY STAR Homes (residential) with prescribed HERS rating
- Chosen to work hand-in-hand with SBC programs

CODE COMPLIANCE

- State chosen as one of nine in U.S. to participate in DOE compliance pilot

MEASUREMENT

- State chosen to participate in regional/national home rating pilot through SEP/ARRA
- 2009 metric to develop report on residential building energy rating

LINK TO PROGRAMS

- Program language in Green Communities Act (2008)

ENERGY CODES POLICY: ISSUES TO ADDRESS

CODE ADOPTION

- ARRA commitments aside, are states serious?
- More well-funded opposition to model code development
- Confusion re: beyond code/green building guidance

CODE COMPLIANCE

- Just figuring out compliance levels is a challenge
- Often ignored, focus more on health/safety codes
- State, municipal code offices, training efforts underfunded
- Tracking virtually non-existent

MEASUREMENT

- Once buildings are built, performance relative to code/energy performance largely ignored

FILLING A POLICY NEED – CODES GUIDANCE

MODEL PROGRESSIVE BUILDING ENERGY CODES POLICY

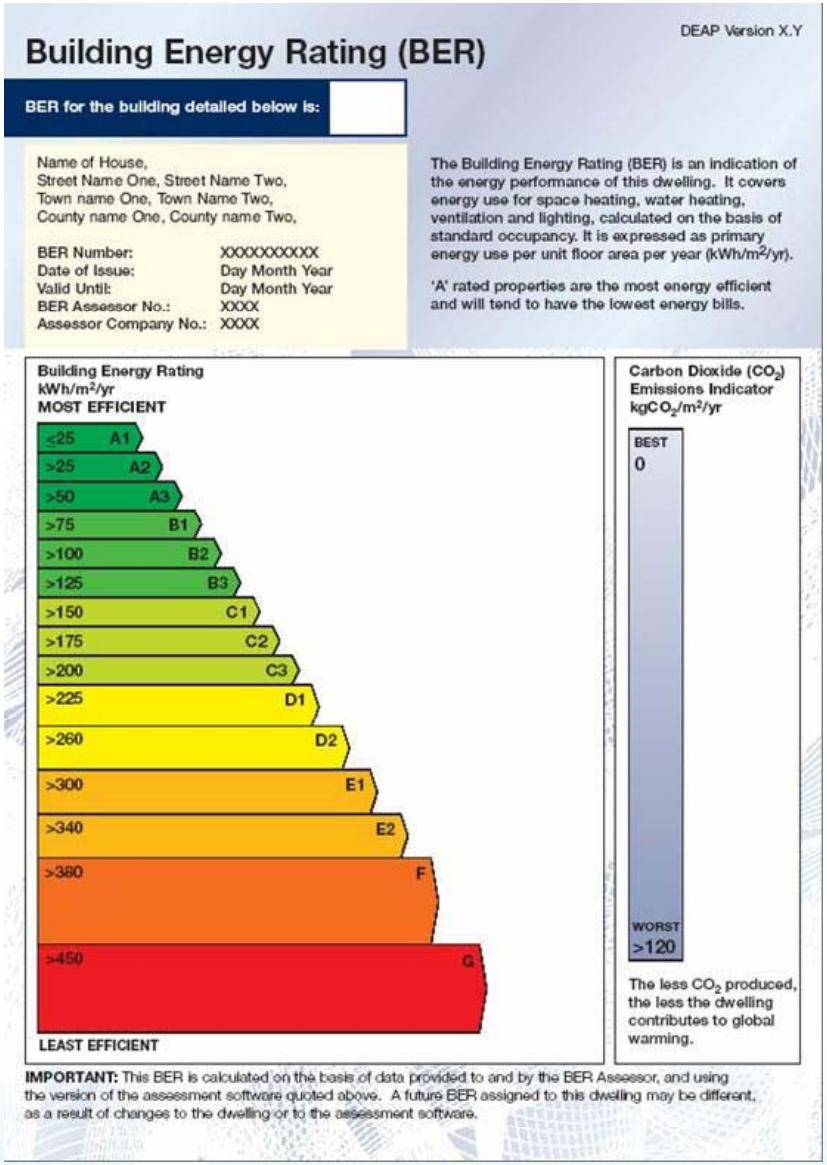
- With so many pieces and players, NEEP developed a comprehensive guide to enacting building energy policies
- Funded in part by DOE, white paper and ongoing guidance:
  - Detailed explanations of each specific policy element
  - Suggested enabling statutory language
  - Relations to other policies/programs
  - References to industry and policy best practices
  - State-level estimates of energy and carbon savings potential of progressively more stringent building energy codes
- Three main elements:
  - Code adoption
  - Code compliance
  - Measuring/disclosing building energy performance

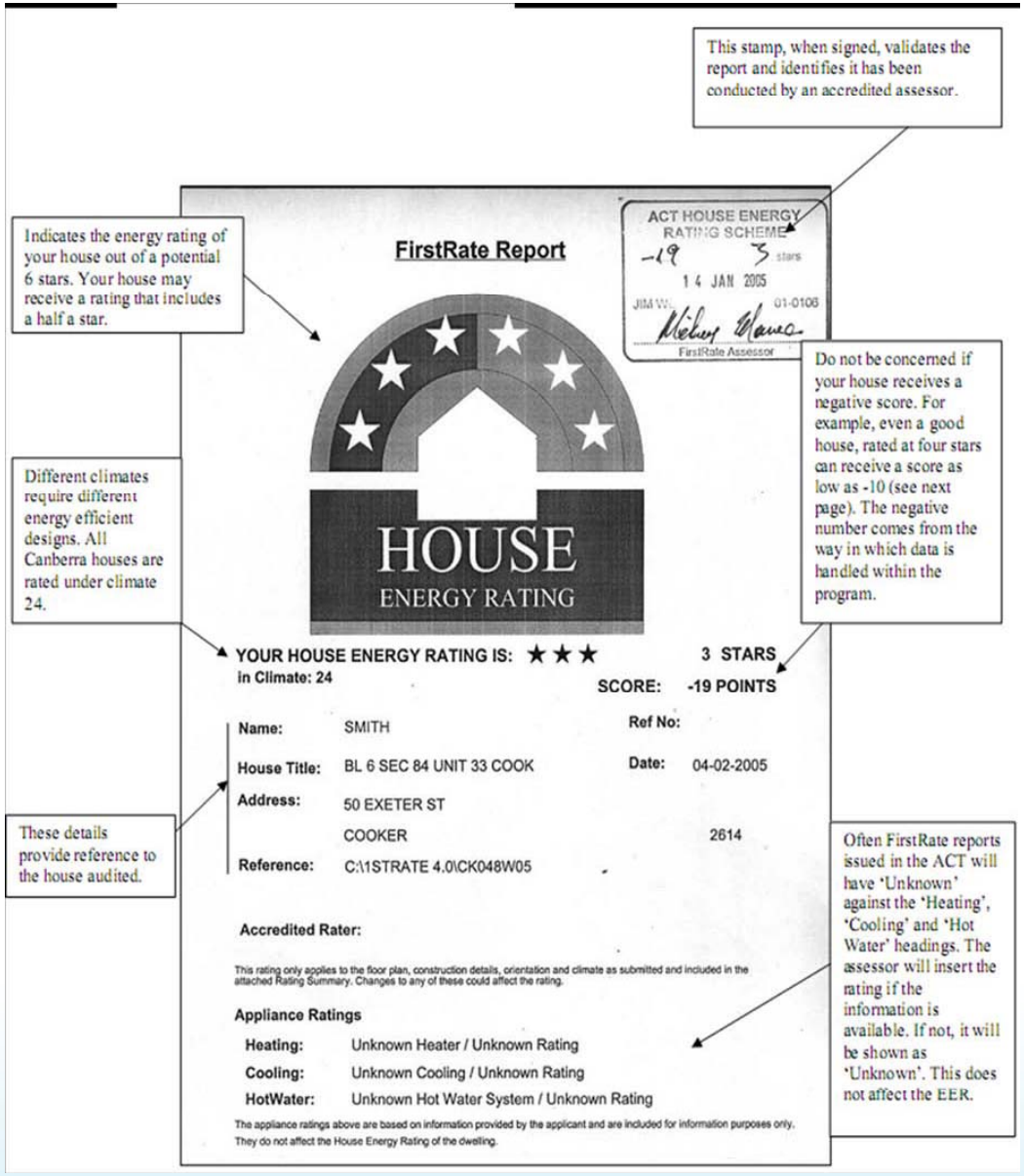
BUILDING ENERGY LABELING/DISCLOSURE

MEASURING/DISCLOSING BUILDING ENERGY PERFORMANCE

- Time-of-sale (or other event) rating and disclosure
- Code addresses new construction, BER gets to existing
- NEEP research paper developed – roadmap for states
  - http://neep.org/public-policy/building-energy-codes/building-energy-rating
- Can/should link with SBC retrofit/building performance programs, as well as RESNET, BPI, others
- Also aids code efforts by gauging compliance from existing building stock
- DOE leading new National Building Rating Project
- Develop unified rating system. Key issues for comment:
  - Building national registry\database – privacy issues?
  - Asset or operational rating?
  - Site or source energy?
- Link to new retrofit efforts – mandated upgrades?

MODEL CODES POLICY





CODES AND STANDARDS: ISSUES TO ADDRESS

ATTRIBUTION ➔ who gets credit for:

- Energy code updates
- Code training/support
- New appliance standards

RISING BASELINES ➔ need:

- New sources of savings
- Transition strategies
- Incentives to innovate

CODES AND STANDARDS: ISSUES TO ADDRESS

What do regulators need to hear?

Who should address them?

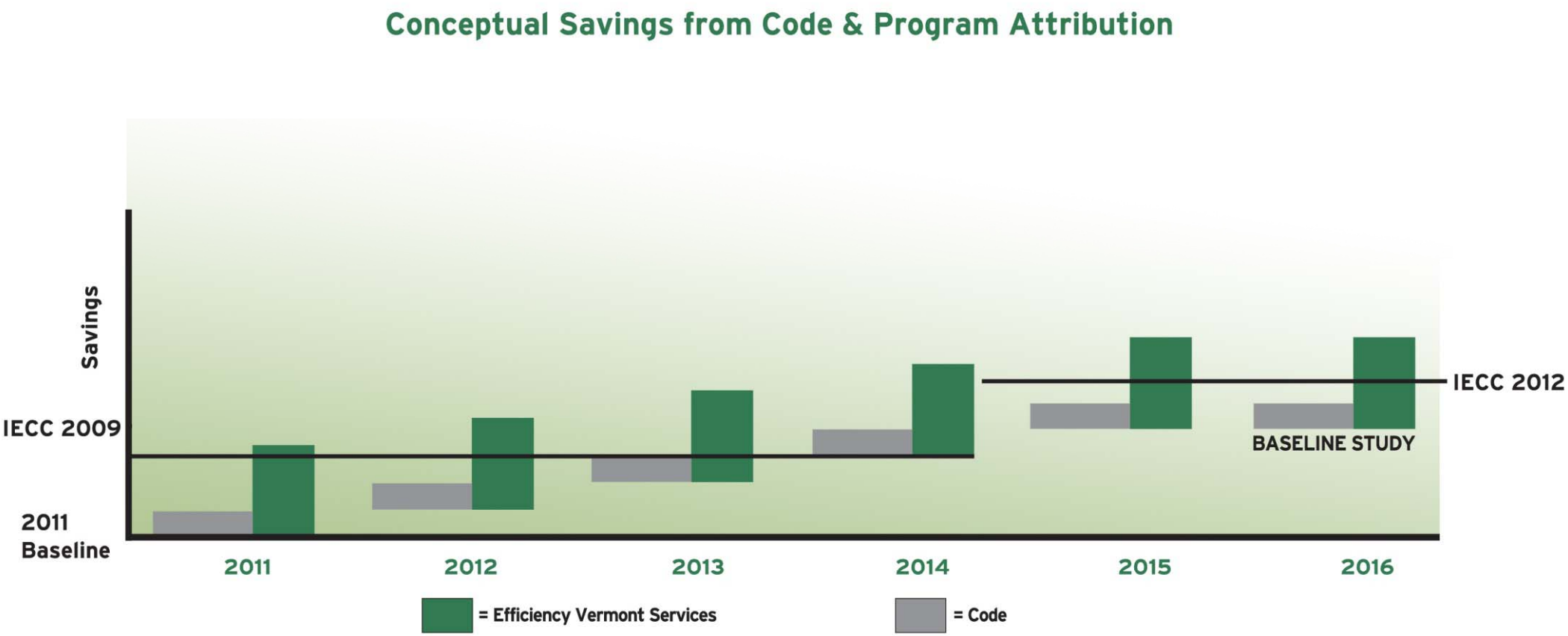
Who else needs to hear this?

What regulatory dynamics are in play that will inform these kinds of efforts in our states?

Is there likely to be opposition? From where?

What are the necessary next steps to move this – incorporating C&S into efficiency programs - forward?

CODES AND STANDARDS: ISSUES TO ADDRESS



THANK YOU

JIM O'REILLY
Director of Public Policy
joreilly@neep.org

91 Hartwell Avenue Lexington, MA 02421
P: 781.860.9177
www.neep.org