NEEP Building Energy Codes Project

2014 Building Technologies Office Peer Review

MISSION

Accelerate the efficient use of energy in the Northeast and Mid-Atlantic Regions

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

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Project Summary

Timeline:

Start date: September 1, 2012

Planned end date: August 31, 2015

Key Milestones

1. Rhode Island Code Compliance Initiative, December 2012
2. Massachusetts 2012 IECC Adoption (July 1, 2013)

Budget:

Total DOE $ to date: $216,500

Total future DOE $: $383,500

Target Market/Audience:

State Code & Energy Offices

Practitioners

Code Officials

Key Partners:

State Energy Offices	Other REEO's
State Code Offices	RECA
NASEO	EECC
NGA	Utility Program Administrators
NBI	DOE

Project Goal:

NEEP's Building Energy Codes Project goal is to help the region reduce its carbon emissions by providing states with resources to develop, implement and comply with building energy codes.

Purpose and Objectives

Working to advance state and regional adoption and implementation of progressive building energy codes and help states to establish an infrastructure to achieve code compliance.

The Challenge

- Political – change in leadership or no longer a priority
- Funding and staffing constraints
- Lack of communication amongst state departments (codes, energy etc.)
- Lack of data or access to data (need for centralized database of building permits)
- Trades not recognizing value of energy efficiency

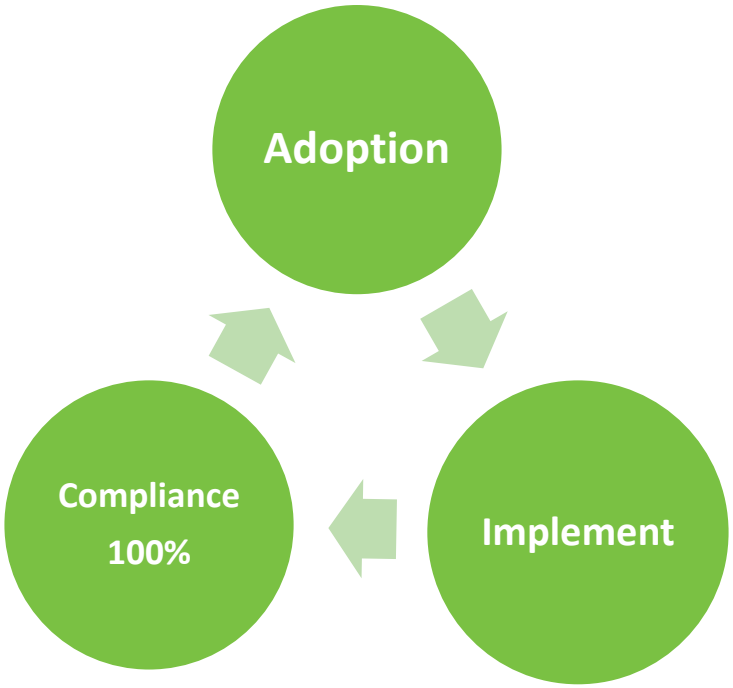
12 State region (Maine, New Hampshire, Vermont, Massachusetts, New York, Connecticut, Rhode Island, Washington DC, Pennsylvania, Delaware, New Jersey & Maryland)

NEEP's Region
Total Energy Consumed per Capita, million Btu: 255.5

Purpose and Objectives

- Markets **value and prioritize** energy efficiency
  - Rating and Disclosure (VT, Cambridge, MA)
- **Robust & qualified** building energy code work force: DE, RI, MA, MD, NY
- Efficiency programs support energy codes, allowed to **claim savings**: RI, MA (Pilot)
- States accurately **verify & report** energy **code compliance** rates: NY, RI
- States adopt & implement **latest model building energy codes**
- States on track to adopt & **implement a stretch code**: MA,RI, VT

Approach: *Collaboration, Education & Technical Assistance*



Distinctive Characteristics:

- Engagement of regional leadership group to share best practices
- Rate Payer Efficiency Programs
- Long history of environment policy / stewardship

Progress and Accomplishments

Lessons Learned:

- Stakeholder engagement is key
- Don't assume internal communication / coordination amongst agencies
- Progress is slow - patience
- State Agency may not have internal expert on codes
- Be mindful of terminology used – know your audience
  - Use targeted talking points

Recognition:

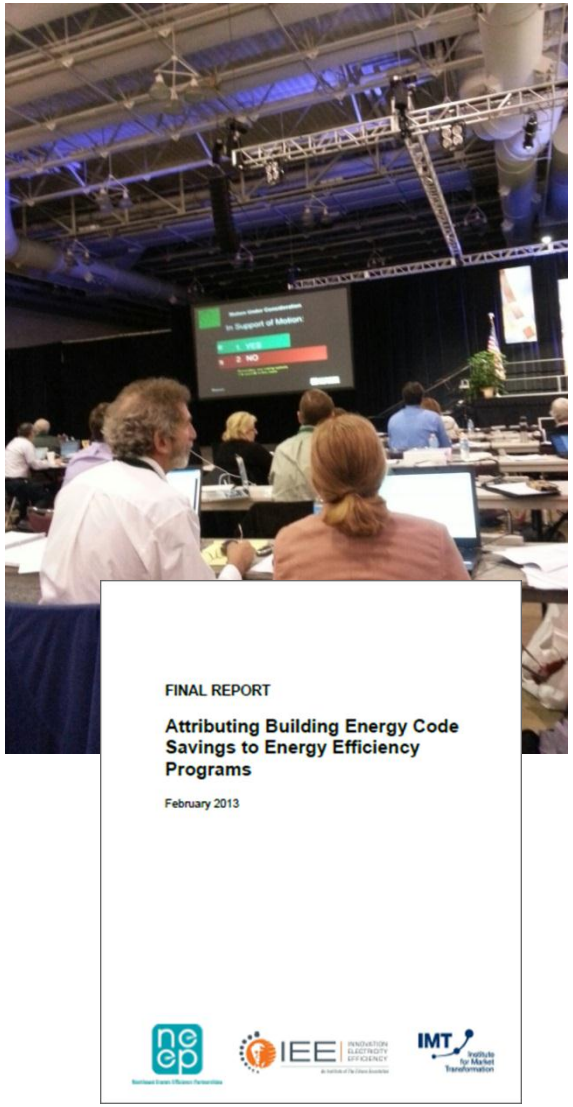
Recognized as a go-to source throughout the region & Nation

"Thanks for your detailed response. Your explanation was really helpful and I could finally understand/ visualize the challenge"

- Bahareh van Boekhold, DNREC, in response to an explanation of the ACH-50 metric and the bias against small homes

Progress and Accomplishments

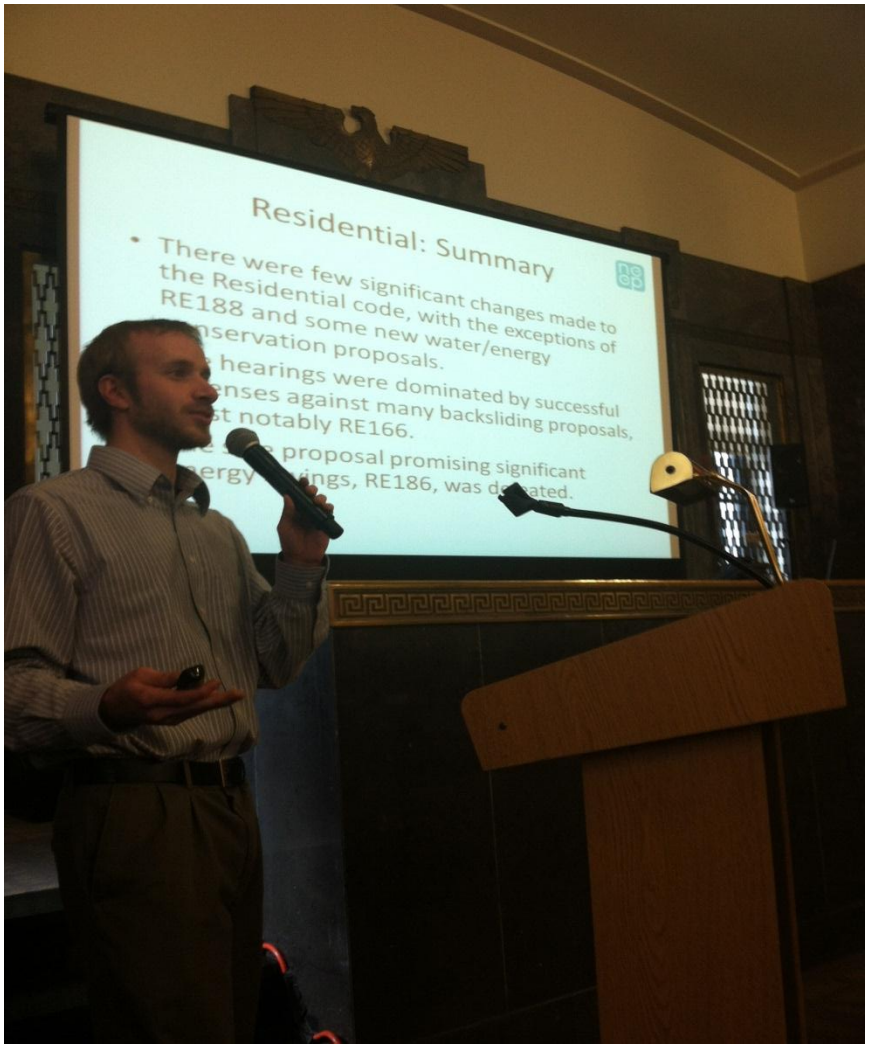
- **Advancement of model energy code – 2015**
  - Talking points / fact sheets
  - Technical guidance
- **Attributing Building Energy Codes Savings**
  - Rhode Island
  - Massachusetts (Pilot)
- **State Energy Code Collaborative**
  - Connecticut
  - Delaware
  - New Hampshire
  - Pennsylvania
- **Maintained Model Stretch Code**
  - Continued to advocate for Massachusetts adoption
  - Elements used to develop:
    - Vermont and Rhode Island



Progress and Accomplishments

Regional Leadership Group

- Advancing best practices
- Participation from all 12 states
- Over 100 stakeholders
- 3 calls 1 in-person meeting per year



Progress and Accomplishments

2012 IECC Adoption

- ✓ Maryland*
- ✓ Durham, NH
- ✓ Rhode Island*
- ✓ Massachusetts*
- ✓ District of Columbia

2009 → 2012/2015??

- ✓ Connecticut
- ✓ New York
- ✓ New Hampshire
- ✓ New Jersey
- ✓ Pennsylvania

2012 IECC- Who's Next?

- ✓ Delaware

2015 IECC Adoption (expected)

- ✓ Vermont

2009 (local adoption)

- ✓ Maine

Progress and Accomplishments

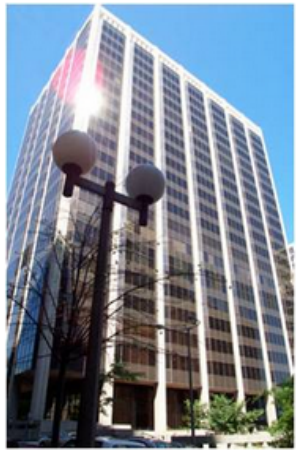
Building Energy Rating and Disclosure

- Linkage with *energy code compliance*
- City of Boston May 2013
- Building Asset Rating Pilot (with MA DOER)
  - Completion Phase 1
    - Feb, 2013
  - Start of Phase II
    - April, 2013

BUILDING ASSET RATING

Massachusetts: Raising the "BAR" to Improve Energy Efficiency

The Building Asset Rating (BAR) pilot is a two phased project that seeks to develop and test new methods to assess the energy performance of building assets. As a complement to tools such as the EPA's ENERGY STAR Portfolio Manager (ESPM), the BAR pilot focuses on analysis techniques that assess building assets rather than the operations of the building.



The BAR pilot is jointly coordinated by the Massachusetts Department of Energy Resources (DOER) and Northeast Energy Efficiency Partnerships (NEEP).

<< Interested in participating in phase 2?
Fill out the Building Enrollment Survey here >>

Why Raise the BAR?

Massachusetts adopted one of the most ambitious greenhouse gas (GHG) emissions reduction plans of any state in the nation. The Clean Energy and Climate Plan (CECP) outlines the Commonwealth's strategies to achieve a 25% reduction in GHG emissions (relative to a baseline of 1990 emissions) by 2020 and an 80% reduction by 2050. Improved energy efficiency in buildings is a key element of the CECP as the cost of the work is often quickly recouped through decreased utility bills. However, such potential savings are often left untapped. One reason commonly cited is a lack of information regarding the energy performance of building assets as available methods to analyze buildings can be costly and time-consuming.

The BAR pilot asks: can we improve building analysis to provide credible, investment-grade information in less time and with decreased cost?

Project Integration and Collaboration

Project Integration

Collaborating on an ongoing basis:

- Regional leadership group stakeholders
  - Code Collaborative
- Trade associations (ASHRAE, BSA, AIA, NEHERS etc.)
- Real Estate Professionals
- Regional Lung Association / Asthma Coalition
- Internal NEEP teams: Linkage between codes and standards, EMV
- SEE Action Network

Partners, Subcontractors, and Collaborators:

Ongoing discussions on energy code issues, best practices, and opportunities to streamline efforts:

- NBI, RECA , NASEO, IMT, PNNL, BCAP and Other REEOs

**Don Vigneau (project staff moved to contractor)

Next Steps and Future Plans

- Code Collaborative
  - Adding VT, expanding CT and RI
- Regional Leadership Group
- Workshop June 2 on ZNE
  - linkage to codes and standards
- Toolkits
  - Adoption
  - Compliance
- Maintain Model Stretch Code
- Technical Support 2015 IECC / ASHARE 90.1 2013
- Protocols to Claim Savings for Code Support
- Technical Support for State Code Activities
- Web-Based Resource Center (MPBECP)
  - Best practice trainings & web based permitting
- Code Training, Workshops & Curricula

REFERENCE SLIDES

Project Budget

Project Budget: Original 3-Year Plan $600,000 ($200K per year)
Variances: Spending is behind plan by approx. 13% due to timing and uncertainty of DOE funding
Cost to Date: NEEP has expended ~ $216,500 through 03/31/14 (36%)
Additional Funding: In the past we have been able to leverage 70-75% with other funding sources (i.e. Sponsorship and Foundations). Foundation funding has decreased in 2014.

Budget History					
09/01/12 – FY2013 (past)		FY2014 (current)		FY2015 – 08/31/15 (planned)	
DOE	Cost-share	DOE	Cost-share	DOE	Cost-share
$167,500	N/A	$297,500	N/A	TBD	N/A

Project Plan and Schedule