Building Energy Codes Enhancement and Enforcement

NASEO Meeting
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What do we want?

Improved energy performance of buildings

...Without sacrificing durability & safety

...At a reasonable cost

...In the context of 80% GHG reductions by 2050
Which home is zero net energy?
What makes this possible?

• Envelope: airtight & well insulated
  – Expert inspection & blower-door testing
  – Mechanical ventilation

• Mechanical systems: high efficiency
  – Performance incentives to go beyond NAECA
  – Sealed combustion

• Onsite renewable energy: Solar (& Biomass)
  – State & Federal incentives
IECC 2012 code requires

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• Onsite renewable energy: Solar (& Biomass)
  – code incentives
MA 2009 stretch code requires

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  – code incentives
Exceeding 90% code compliance

• Requires stakeholder buy-in
  – expectation of continuous improvement

• Requires clear performance metrics
  – Clarify 90% compliance definition
  – Simplify code inspection
  – Allow design flexibility to reduce costs
  – Show & quantify energy savings
BECP/PNNL 8 Pilot Studies 2011

Creating A Cleaner Energy Future For the Commonwealth
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PNNL Study: Lessons Learned

• The top barriers to compliance are
  – Training
  – Lack of resources
  – Lack of compliance information on plan submissions

• Software tools associated with trade-off and performance-based compliance approaches, demonstrated a strong correlation with higher compliance rates
Residential compliance - by software
Exceeding 90% code compliance

Implies:

1. moving away from prescriptive energy codes
2. towards energy modeling validated by diagnostic testing
3. additional support/expertise for municipal code officials
Energy code support priorities

1. Online plans and permit tracking
2. Blower-door / duct testing – training and certification – GA, BPI, HERS raters
3. Training & technical assistance for designers, builders, & municipal code officials
MA: moving to performance code

One hundred thirty-one (131) municipalities have adopted the new Board of Building Regulations and Standards (BBRS) Stretch Code, as of May 22, 2013.
Focus on Bldg. Energy Performance

- Stretch Energy Code – 131 Communities
- Large Commercial Bldgs. – MEPA GHG review
- State Bldgs. – MA LEED+ standard
- Green Schools – Mass CHPS
- Municipal Bldgs. – Mass Energy Insight
- Home & Office MPG labeling pilots