Strategies in Building Energy Codes

NASEO Regional Meeting
Montana - August 2, 2012
Presentation Overview

- Background on NASEO research on building energy code programs
- Opportunities for Utility/State Energy Office (SEO) collaboration on building energy code programs
- Cost-Effectiveness against 2006 IECC base
- State Status – Residential and Commercial Codes
- Compliance
- Upcoming Code Events
NASEO Research on SEO-Utility Partnerships on Building Energy Codes

- NASEO Board of Directors passed a resolution in December 2011 encouraging SEO-utility collaboration
  - Many SEOs active in this area
  - Declining funding threatens recent progress
  - Partnerships with stakeholders are key

- Some utilities have developed building energy code programs
  - Source of savings for Energy Efficiency Resource Standards (when attribution model is developed)
  - Have resulted in significant savings: CA program expected to produce first-year net savings of 2,178 GWh
NASEO Research on SEO-Utility Partnerships on Building Energy Codes

- Research method:
  - Reviewed utility and SEO building energy code programs in 13 states
  - Four case studies: AZ, GA, IA, and WA

- Objectives:
  - Compile lessons learned from current programs
  - Develop recommendations for further SEO-utility collaboration on building energy codes
Common SEO-Utility Approaches to Building Energy Code Programs

Research revealed several common building energy code programs:

1. Training Programs
   - SEOs serve as administrator
   - Utilities support through expertise, funding, marketing
   - Funding from “Education and Technical Assistance” budgets

2. Stakeholder Engagement Processes
   - Some SEOs convene diverse stakeholders invested in code adoption and compliance
   - Specific initiative vs. on-going
   - Engaging utilities is key aspect of these initiatives
3. Utility Oversight/Monitoring
   • In some states (MA and MN), SEOs have roles defined by legislation to provide oversight/guidance of utility ratepayer funded programs
   • Formal framework for SEO-utility collaboration

4. Stretch Code Programs
   • SEOs and other stakeholders design state-wide “stretch code” programs
   • Utilities support stretch code by linking incentive programs to the required measures
Common SEO-Utility Approaches to Building Energy Code Programs

Lessons Learned:

- States have developed a variety of approaches
- SEO-utility collaboration is on a spectrum
- There are examples of strong SEO-utility collaboration, and also room for improvement in many parts of the country.
- Savings attribution is important to increasing utility involvement in building energy code programs; however, some programs are active without these methodologies.
Recommendations for SEO-Utility Partnerships on Building Energy Codes

1. Illustrate clear value-proposition for why utilities should engage in building energy codes
   - New source of energy savings, if they can be claimed
     - Addresses main drawback to utilities: reduction in savings from other new construction programs
     - This issue is both a challenge and an opportunity
   - Cost-effective approach to meeting energy demand
   - Integrated resource planning

2. Understand that utility support can be multi-faceted
   - Political and social capital with state legislatures, builders, contractors
   - Data on consumer energy use and new construction trends can help inform cost-benefit analysis for proposed codes
Recommendations for SEO-Utility Partnerships on Building Energy Codes

3. Engagement with local and state code adoption agencies should be a priority
   - Ensure that building energy code programs align with state priorities and activities

4. Identify and act on “low-hanging fruit”
   - Linking new-construction rebate programs with next-cycle of code
   - Training and education of buildings, contractors, local officials, etc.
   - Equipment rental
   - Find opportunities to fit code programs into existing utility energy efficiency initiatives
Highlights from TVA/SEO Meeting

- Identified need for regional workshop on codes; process to quantify and verify savings

- TVA to support code training (focus on AL and KY)

- TN and TVA to address code compliance issue (focus on Memphis)

- MS and TN are #1 and #2 in fire deaths; link to need for better model codes => safety and energy (?)

- Need more discussion/solutions on code compliance strategies

- TVA interested in concept of “stretch codes”; invited SEO input on their new program approaches; ENERGY STAR version 3 issues

- Public building retrofit focus with TVA incentives & SEO assistance
Status of Code Adoption: Residential

Overview of the currently adopted residential energy code in each state as of April 5, 2012
Status of Code Adoption: Commercial

Overview of the currently adopted residential energy code in each state as of April 5, 2012
DOE - Cost Effectiveness against 2006 IECC Baseline

- Update from U.S. DOE on 2012 IECC and cost-effectiveness analyses

- Cost-Effectiveness processes:

Example:

<table>
<thead>
<tr>
<th>MISSOURI (Base code 2006 IECC)</th>
<th>For 2009 IECC</th>
<th>For 2012 IECC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Cycle Cost</td>
<td>$2,229</td>
<td>$7,826</td>
</tr>
<tr>
<td>Simple Payback</td>
<td>4.1 years</td>
<td>4.7 years</td>
</tr>
<tr>
<td>Average Household Savings</td>
<td>$143/year</td>
<td>$507/year</td>
</tr>
</tbody>
</table>
State Compliance Activities
as of September 30, 2011
Upcoming Code Dates

- **ACEEE Summer Study – Code sessions Aug 14, 15, 16.**
- **Excellence in Energy Code Compliance Award**
  - IMT is recognizing jurisdictions that have had success in achieving energy-code compliance in a cost-effective manner. Deadline Aug 15. More Information: IMT Website | Recognizing Leaders in Energy Code Compliance

- **2012 Midwest Regional Building Energy Codes Conference**
  - MEEA is hosting the 3rd annual 2012 Midwest Regional Building Energy Codes Conference, October 3-4, at the Crown Plaza in Indianapolis, Indiana. More Information: MEEA Website | Event Registration

- **2012 Great Plains Energy Codes Conference**
  - The Nebraska Energy Office is hosting the 2012 Great Plains Energy Codes Conference, October 16-18, at the Marriott in Regency Plaza, Omaha, Nebraska. More Information: OCEAN Story Link | Conference Home Page | Event Registration
Additional information

- Full NASEO report, Executive Summary, and Case Studies:
  - [http://www.naseo.org/codes/seo-utility-codes-report/](http://www.naseo.org/codes/seo-utility-codes-report/)

- For more information …
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