Rhode Island Energy Code Technical Support

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Agenda

- Why is National Grid investing in energy code compliance enhancement in Rhode Island?
- The run-down on *Energy Code Technical Support*
- EM&V….including the attribution rate
- Next steps and best practices
Why is National Grid involved?

- Only part of a larger Codes & Standards Initiative
  - Code compliance: *Energy Code Technical Support*
  - Base code advocacy
  - Appliance standards advocacy
  - Stretch code development support
- Increasing program baselines
  - New construction
  - Appliances and products
- Poor energy code compliance rates
- New strategy for future portfolio savings
- It’s the right thing to do!
  - *Enablers not enforcers*
Initial development

- Multi-year planning process (2011-2012)
  - Collaboration amongst several stakeholder groups

- RI and MA Code compliance baseline studies (2012)
  - On-site evaluations and surveys
  - Rhode Island: 70% commercial, 57% residential

- Energy savings modeling (2012-2013)
  - Translate improvement in compliance into gross technical potential energy savings
  - Couple energy simulations with projections of future construction activity

- Regulatory and RI PUC approval in December 2012
  - Buy-in from advisory council (EERMC) and the State
  - Deemed savings approved and claimed for 2013, ramping up over time (4-5 years)
Implementation

- Vendor team hired in April 2013 – strong Rhode Island presence

- **Energy Code Technical Support** includes:
  - Focus groups – proactive outreach to important stakeholders for initial input
  - Trainings (code officials, builders, architects, etc.)
  - Energy code technical assistance circuit riders
  - Process trainings for 3rd party energy specialists
  - Code compliance documentation tools

- Kicked-off in October of 2013 (coincides with 2012 IECC enforcement)

- Establishment of Working Groups (Implementation and Evaluation)

- Developed website for all stakeholders → [www.ngrid.com/rienergycode](http://www.ngrid.com/rienergycode)
Highlights from the field!

Postcards

Snapshot of the website

Commercial training

Residential training
More highlights from the field!

Jack Leyden
RI Building Code Commissioner

In-field and hands-on trainings!
It’s for code officials too!
How do we claim savings?

- Development of a *comprehensive* savings and attribution methodology
  - Evaluated by a 3rd party
  - Gas and electric savings estimated from 2014 – 2018

- Program Checklist
  - Document and track all program-related activities
  - Ensures continuous evaluation
  - Prompts check-in meetings with the Evaluation Working Group

- Claimed savings subject to completion of Program Checklist

- Conduct second baseline study to determine effect of *Energy Code Technical Support* on code compliance rates
Rhode Island (Code Advocacy)

Assumption
Full transition from 2009 to 2012 IECC

Assuming 100% compliance rates in both residential and commercial

Rhode Island

Assumptions
Residential: Compliance jump from 56% under 2009 IECC to 90% under 2012 IECC

Commercial: Compliance jump from 70% under 2009 IECC to 90% under 2012 IECC

Net Program Savings

Attribution Factors

Normal Market Adoption (NOMAD)

Non-compliance

**Dynamic over time**
The ol’ attribution rate

- Attribution = % of compliance rate that is because of *Energy Code Technical Support*
  - It changes every year!

- Measure quantitative effect of Energy Code Technical Support against other influences:
  - RI Building Code Commission (RIBCC)
  - RI Builders Association (RIBA)
  - Existing National Grid New Construction and Retrofit Programs
  - RI Green Building Council (RIGBC)
  - Other entities and organizations
  - Normal market adoption (NOMAD)
  - Non-compliance

- How?
  - Interviews with stakeholders
  - Analysis of past, present, and future code-related outreach and activities
Commercial attribution chart

- National Grid (CSG/ERS) CCEI
- Increased market penetration for ongoing programs
- Ongoing National Grid NC and RF Programs
- Past National Grid Training and Education Activities
- Various entities
- RIGBC, increased GBA activity
- RIGBC
- RIBA
- RIBCC
- NOMAD
- Non-compliance
More attribution….and the results

- Attribution is not the final step!

- Increasing attribution rates and max potential improvements over initiative:
  - Residential attribution: 2% to 24%
  - Residential max potential improvement: 4.5% to 55%
  - Commercial attribution: 2% to 23%
  - Commercial max potential improvement: 4% to 47%

- 5-year savings
  - Electric: 105,000 MWh → **66% of National Grid’s entire 2013 EE portfolio goal**
  - Gas: 275,000 MMBtu → **95% of National Grid’s entire 2013 EE portfolio goal**
Takeaways and wrap-up

- Next steps
  - Continue to refine savings methodology
  - Define and execute 2014 Program Checklist
  - Continuous evaluation and program improvement

- Best practices
  - Stakeholder collaboration
  - Involvement of RI Building Code Commission was key
  - Implementation and Evaluation Working Groups

- Baseline studies are critical!
  - Expensive but necessary for a robust savings methodology

- Integrate as part of larger Codes & Standards Initiative
  - Base code advocacy, stretch code development support, and appliance standards
  - Increasing importance to National Grid’s savings portfolio
Thank you!

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