



Municipal & State Partnerships Related to Building Codes

September 9, 2011 2pm EST

Isaac Elnecave - MEEA

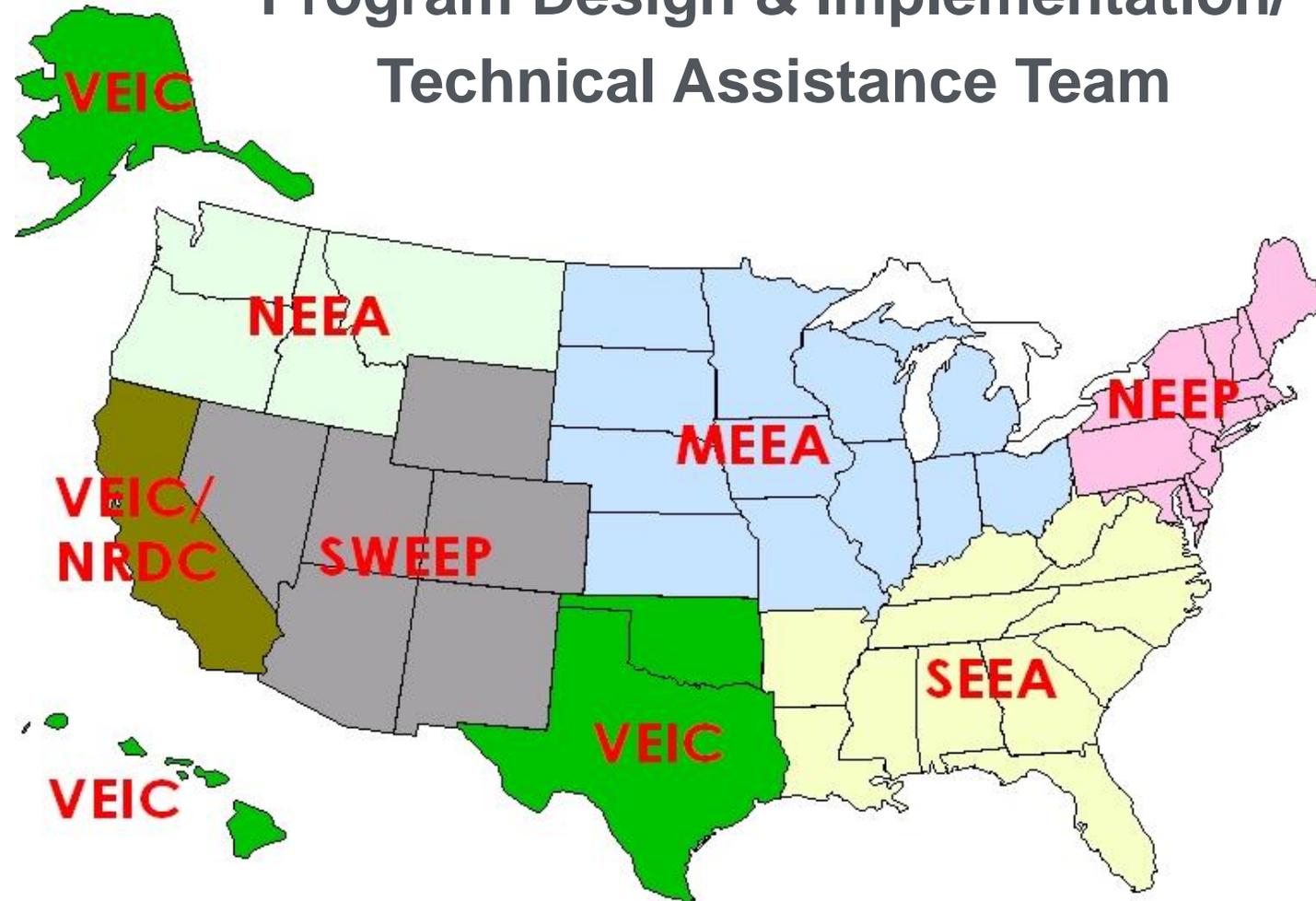
Chris Baker – The Weidt Group

Ed Londergan - NEEP

DOE's Technical Assistance Program (TAP) supports the Energy Efficiency and Conservation Block Grant Program (EECBG) and the State Energy Program (SEP) by providing state, local, and tribal officials the tools and resources needed to implement successful and sustainable clean energy programs.



Program Design & Implementation/ Technical Assistance Team



ACEEE, NRDC: National Support



TAP offers:

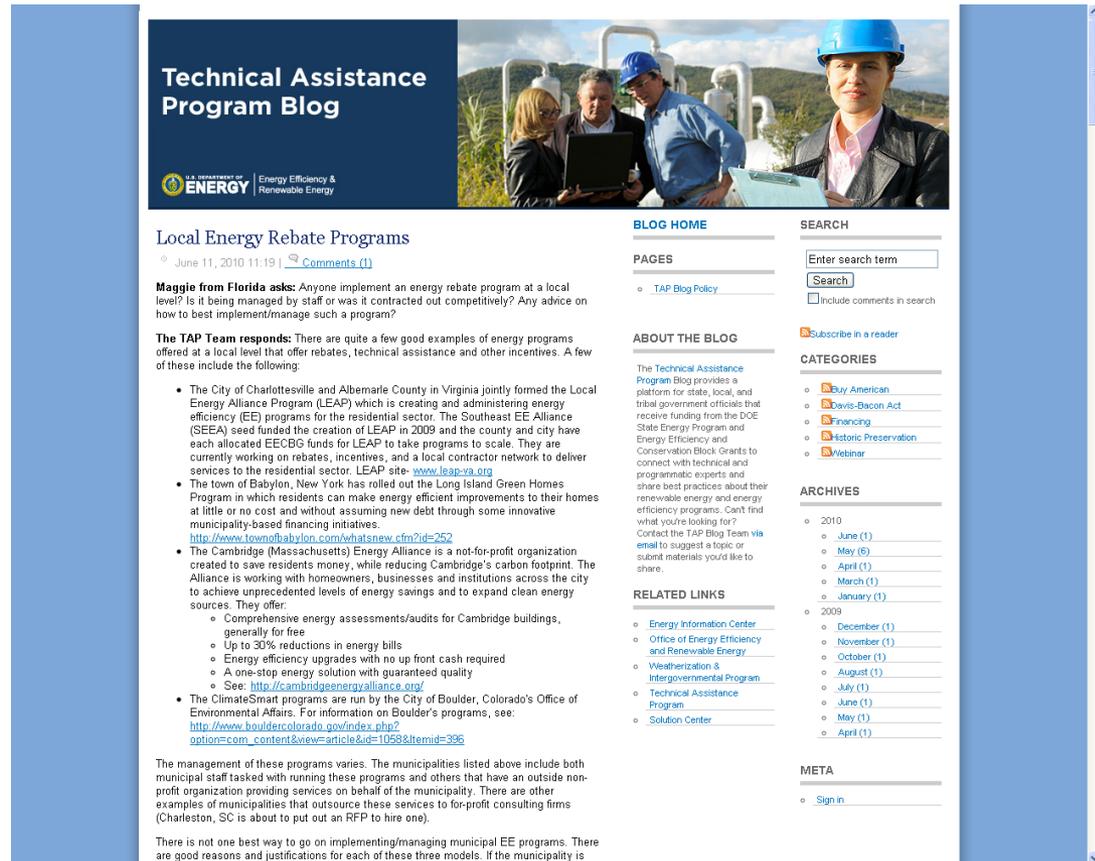
- One-on-one assistance
- Extensive online resource library, including:
 - Webcasts
 - Events calendar
 - TAP Blog
 - Best practices and project resources
- Facilitation of peer exchange

On topics including:

- Energy efficiency and renewable energy technologies
- Program design and implementation
- Financing
- Performance contracting
- State and local capacity building

Access the TAP Blog! <http://www.eereblogs.energy.gov/tap/>

Provides a platform for state, local, and tribal government officials and DOE's network of technical and programmatic experts to connect and share best practices on a variety of topics.



Technical Assistance Program Blog

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

Local Energy Rebate Programs

June 11, 2010 11:19 | [Comments \(1\)](#)

Maggie from Florida asks: Anyone implement an energy rebate program at a local level? Is it being managed by staff or was it contracted out competitively? Any advice on how to best implement/manage such a program?

The TAP Team responds: There are quite a few good examples of energy programs offered at a local level that offer rebates, technical assistance and other incentives. A few of these include the following:

- The City of Charlottesville and Albemarle County in Virginia jointly formed the Local Energy Alliance Program (LEAP) which is creating and administering energy efficiency (EE) programs for the residential sector. The Southeast EE Alliance (SEEA) seed funded the creation of LEAP in 2009 and the county and city have each allocated EECBG funds for LEAP to take programs to scale. They are currently working on rebates, incentives, and a local contractor network to deliver services to the residential sector. LEAP site- www.leap-va.org
- The town of Babylon, New York has rolled out the Long Island Green Homes Program in which residents can make energy efficient improvements to their homes at little or no cost and without assuming new debt through some innovative municipality-based financing initiatives. <http://www.townofbabylon.com/whatsnew.cfm?id=252>
- The Cambridge (Massachusetts) Energy Alliance is a not-for-profit organization created to save residents money, while reducing Cambridge's carbon footprint. The Alliance is working with homeowners, businesses and institutions across the city to achieve unprecedented levels of energy savings and to expand clean energy sources. They offer:
 - Comprehensive energy assessments/audits for Cambridge buildings, generally for free
 - Up to 30% reductions in energy bills
 - Energy efficiency upgrades with no up front cash required
 - A one-stop energy solution with guaranteed quality
 - See: <http://cambridgeenergyalliance.org/>
- The ClimateSmart programs are run by the City of Boulder, Colorado's Office of Environmental Affairs. For information on Boulder's programs, see: http://www.bouldercolorado.gov/index.php?option=com_content&view=article&id=1058&Itemid=336

The management of these programs varies. The municipalities listed above include both municipal staff tasked with running these programs and others that have an outside non-profit organization providing services on behalf of the municipality. There are other examples of municipalities that outsource these services to for-profit consulting firms (Charleston, SC is about to put out an RFP to hire one).

There is not one best way to go on implementing/managing municipal EE programs. There are good reasons and justifications for each of these three models. If the municipality is

BLOG HOME

PAGES

- [TAP Blog Policy](#)

ABOUT THE BLOG

The Technical Assistance Program Blog provides a platform for state, local, and tribal government officials that receive funding from the DOE State Energy Program and Energy Efficiency and Conservation Block Grants to connect with technical and programmatic experts and share best practices about their renewable energy and energy efficiency programs. Can't find what you're looking for? Contact the TAP Blog Team via email to suggest a topic or submit materials you'd like to share.

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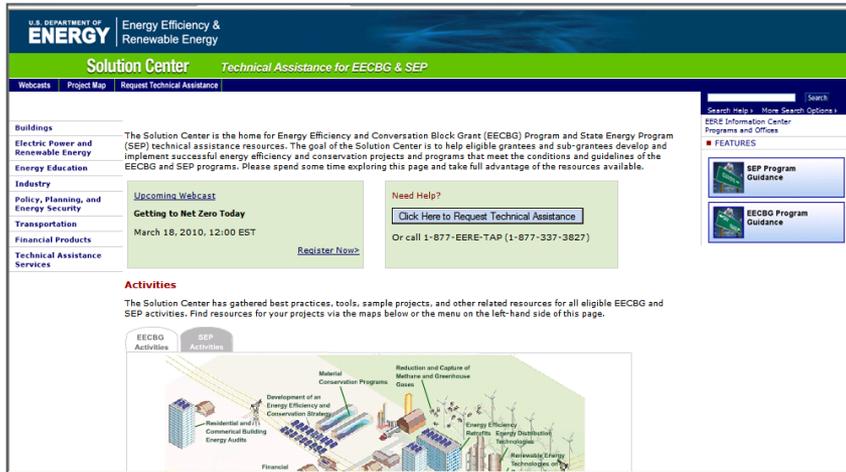
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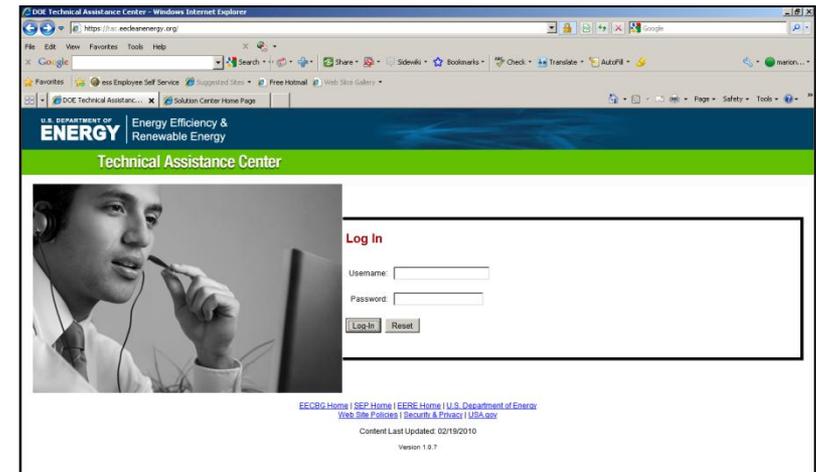
We encourage you to:

1) Explore our online resources via the [Solution Center](#)

2) Submit a request via the [Technical Assistance Center](#)



The screenshot shows the 'Solution Center' website for Energy Efficiency & Renewable Energy. The header includes the U.S. Department of Energy logo and the text 'Energy Efficiency & Renewable Energy'. Below the header, there is a navigation bar with 'Webcasts', 'Project Map', and 'Request Technical Assistance'. The main content area is divided into several sections: 'Buildings' (describing the Solution Center's role), 'Energy Education', 'Industry', 'Policy, Planning, and Energy Security', 'Transportation', and 'Financial Products'. A 'Need Help?' section contains a 'Click Here to Request Technical Assistance' button and the phone number '1-877-EEERE-TAP (1-877-337-3827)'. There is also a 'Upcoming Webcast' section for 'Getting to Net Zero Today' on March 18, 2010. At the bottom, there is an 'Activities' section with a diagram showing various energy efficiency and conservation strategies.



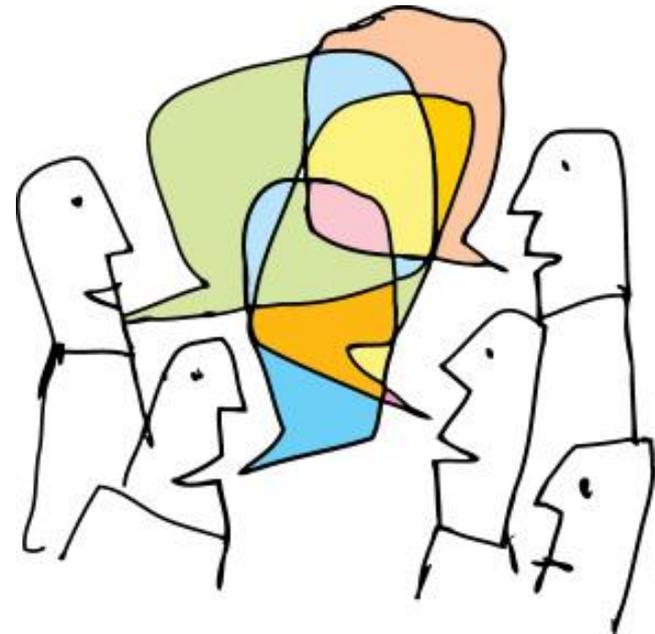
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3) Ask questions via our call center at 1-877-337-3827 or email us at solutioncenter@ee.doe.gov

- Why Use Partnerships
- Issues to Address
- How Do Codes Differ from Other EE Programs
- States Creating Partnerships
 - Minnesota
 - Rhode Island
 - Massachusetts
 - California
- Resources

Municipal and State Partnerships

- with Utilities and Other Organizations –
Can Establish New Ways
to Implement Energy
Codes



Courtesy of bigideastobigresults.com

- **Code compliance levels remain relatively low due to**
 - Main responsibility of Code Officials has been / is life-safety issues
 - Many states adopting the latest model codes outright
 - Increasing complexity of energy codes
 - Lack of resources/training to implement the above
- **Increasing requirements for Energy Efficiency Portfolio Standards (EEPS) mean utilities need to find non-traditional ways to generate savings from energy efficiency**
- **Utilities and other entities have experience with design and construction of energy efficient buildings**
- **Utilities can provide expertise and resources as well as help to develop additional tools to help building practitioners improve compliance with the energy code**

- **When working with Investor Owned or Coop Utility, Keep in Mind they may have a Different Outlook than Government or Nonprofit Groups:**
 - They May Hesitate to Support Improving the Energy Efficiency of Energy Codes because
 - **Increasing the Energy Efficiency of the Energy Code Reduces the Amount of Energy Savings Utilities can Claim**
 - How will This Program Affect my “Bottom Line?”
 - **Can the Utility Gain Credit for Energy Savings from your Code Program?**

- **Codes are Adopted and Generally Enforced By Governmental Agencies**
- **Multiple Organizations (Stakeholders) are Interested and Willing to Participate**
- **Codes Affect All New Buildings**
- **“Customers” Cannot Choose to Participate**
- **Utility Actions Affect Adoption and Compliance but Not Behavior**
- **Utility Acquisition Programs Interact With Codes**

1. Confirm State Statutory and Regulatory Requirements
2. Understand All the Various Stakeholders Involved
3. Focus on Compliance Enhancement (And to a Lesser Extent Stretch Codes)
4. Work Out Appropriate Activities (Actions that Will Result in Measurable Energy Savings)
5. Develop Methodology for Measuring Energy Savings (Pay Attention to Difference Between Natural Gas and Electricity as They May Affect Different Groups)
6. Determine Attribution Rates (not all Energy Savings Due to Increased Compliance will Come Directly From Utility Actions).
7. Allocation (Multiple Utilities Within State)

Some States Have Begun to Create Partnerships to Overcome these Issues:

- **Minnesota**
- **Rhode Island**
- **Massachusetts**
- **California**
- Iowa
- **Even Some Municipalities**
 - City of Rockford, IL

Minnesota Energy Impact of Code Compliance



Image Courtesy of AllMinnesota.com

Background

- Next Generation Energy Act of 2007 requires **1.5% annual energy savings**
- Minnesota's Office of Energy Security contracted Minnesota Environmental Initiative to facilitate stakeholder process
- Created list of recommendations to the state
 - Utility Infrastructure
 - Low-Income Conservation
 - Behavioral
 - Codes and Standards

Participants

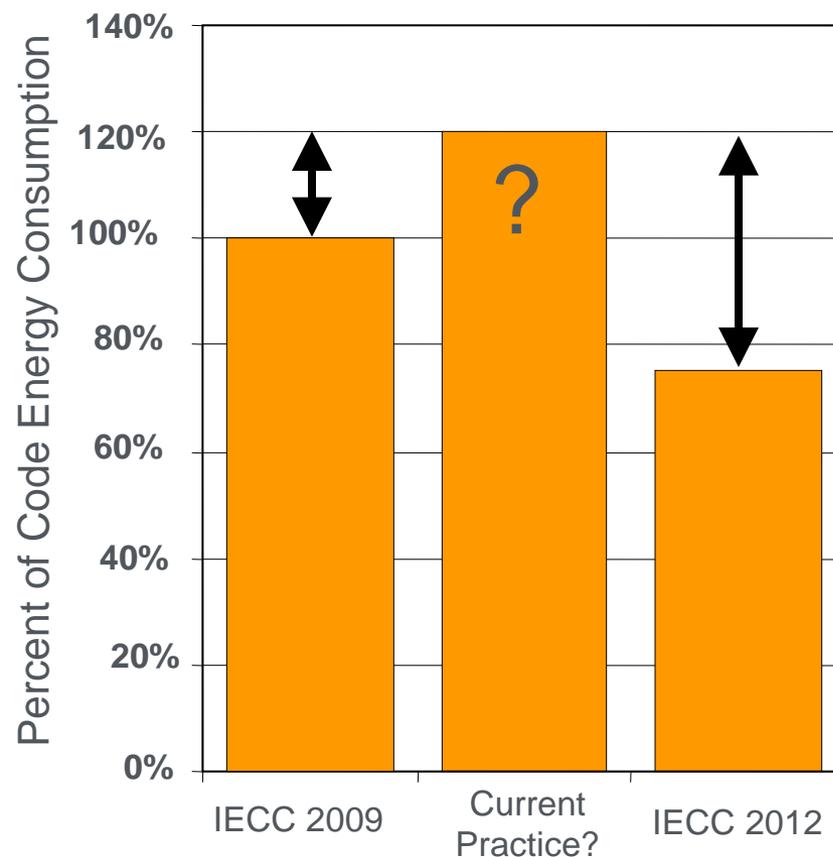
- Chambers of Commerce
- Utilities
- Environmental and energy NGOs
- Building Owners (BOMA)
- City and County organizations
- Private companies in the energy efficiency sector
- State Departments
 - Labor and Industries (inspections)

Full Recommendations at

<http://www.environmental-initiative.org/projects/past-projects>

Minnesota Energy Impact of Code Compliance

- We **THINK** there is a gap between Current Practice and Code
- That gap will likely grow as codes become more stringent
- DOE has a method to measure code **compliance score**, but not energy impact
- By quantifying the impact of code non-compliance Minnesota can:
 - Compare increased code compliance savings to other savings or generation opportunities
 - Take credit for increased savings towards the 1.5% goal



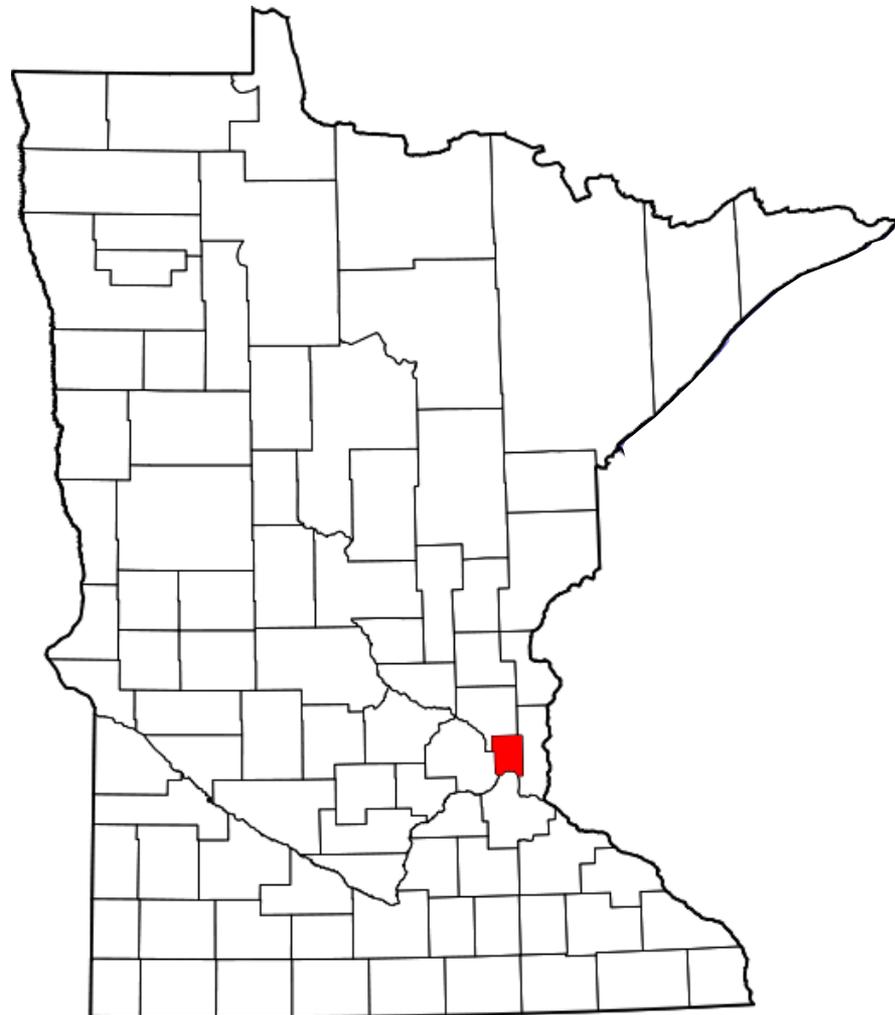
Minnesota Energy Impact of Code Compliance

- Quantify new and renovated buildings across the state
 - How many
 - Building type
 - Building size
- Calculate the anticipated energy use of that population of buildings
 - Code level attributes
 - Attributes found in the survey
 - Non-compliant attributes found in the survey



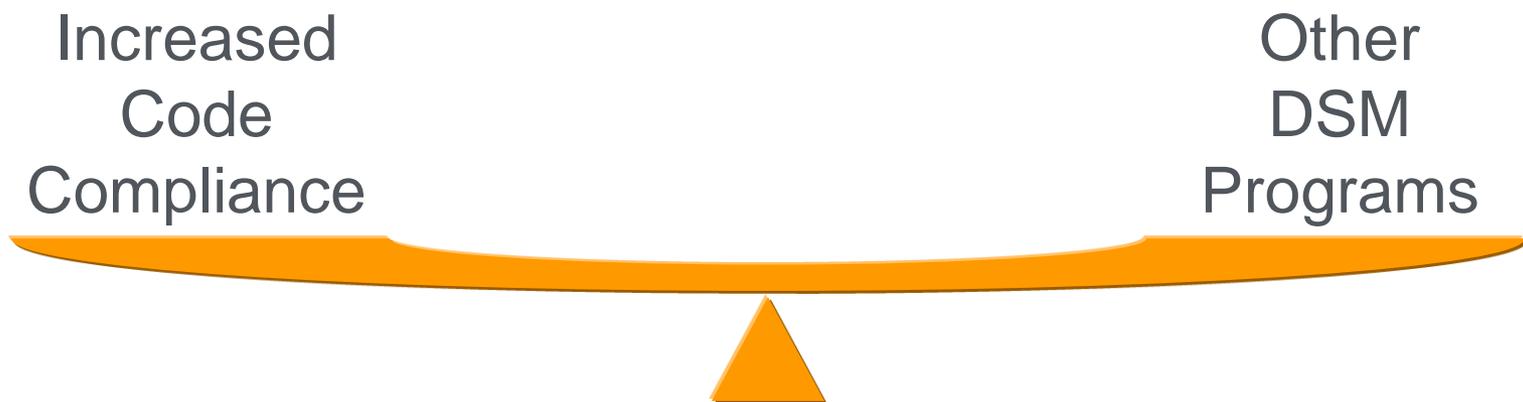
Attribution

- State-wide efforts
 - Would use previous compliance levels as the baseline
 - State may increase enforcement
 - Utilities could opt in to education program
 - Year-over-year savings could be attributed as portion of funding
- Utility-specific efforts
 - Over-sample utility territory with DOE survey
 - Savings would be credited for compliance beyond that of the state-wide compliance for the year



Kilowatt-hours and Therms tell us more than Compliance Scores

- Increased code compliance could be counted towards 1.5% conservation goal
- Code compliance efforts can be compared to other efficiency investments
- Utilities could treat compliance support as demand-side management



Advancing Rhode Island State Energy Codes through a Collaboration of:

RI Building Code Commission
National Grid – Local Utility

NEEP – Regional Energy Efficiency Advocate



Image Courtesy of Travel Globe
Pictures



- **RI Bldg Code Commission:**
 - Per ARRA requirements, need to develop a plan for meeting 90% compliance requirement
- **National Grid (gas & electric utility in RI):**
 - Need to meet aggressive state mandated energy savings goals through innovative programs
 - Have in-house technical expertise to assist state in advancing codes
- **NEEP:**
 - Long history of working on energy efficiency policies and programs in Rhode Island.
 - Assisted the state of RI develop, adopt, and administer advanced building energy codes

- **Monthly strategic planning meetings since November 2010**
- **Trainings:**
 - Conducted residential and commercial code trainings in early 2011
 - Identified advanced level trainings with target groups
- **Initiated code compliance baseline studies**
 - Residential study funded by National Grid
 - Commercial study co-funded by State of RI & National Grid

- **Codes and Standards (C&S) Initiative**
 - For both Residential and C&I Sectors
- **Collaborators**
 - State Building Code Commission and Office of Energy Resources
 - National Grid
 - NEEP
- **Goals** - Improve compliance with existing building energy codes
- **Specific Actions** - Facilitating and supporting training and education efforts for code enforcers
- **Other Collaborators**
 - Professional associations and NGOs
 - National code development organizations
 - DOE's Building Energy Codes Program (BECP)
 - Other Regional Energy Efficiency Organizations

- **Late 2011:**
 - Submit proposal to the state for approval
- **2012:**
 - Focus on completing research & baseline studies
 - Refine program initiatives based on state feedback: intent, goals, timelines, nature of energy savings
- **2013:**
 - Launch C&S program

A Joint State-wide Codes & Standards Initiative by Massachusetts Program Administrators



- **2010:** All 8 Program Administrators (PAs) took a joint decision towards a state-wide residential & commercial C&S initiative
- **Why?**
 - Have in-house expertise to assist State with advancing C&S
 - Need to meet aggressive state mandated energy savings goals through innovative and new program initiatives
 - Capture market missed by incentive programs & overcome split incentives for building owners/tenants
 - Proven through California: cost effective program with large energy savings potential
- **Barriers:** regulatory barriers, complex energy savings attribution

- Began discussions with the state on possible initiatives that PAs can pursue through C&S program
- Hired a consultant team to assist PAs in program planning, energy saving estimates, attribution methodology, etc.
- Initiated research studies to:
 1. Identification of stakeholders and coordinate communication
 2. Confirm energy savings potential through C&S
 3. Complete Code compliance baseline studies
 4. Design attribution methodology to energy savings

- **Late 2011:**

 - Submit proposal to the state for approval

- **2012:**

 - Focus on completing research & baseline studies

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Image Courtesy of NREL

The State of California has Developed a Process that Includes Utilities in the Development Plan for Code Adoption and Compliance

- Each IOU Stakeholder is Actively Working Towards More Energy Efficient Codes
- Makes use of Utility Expertise and Resources
- Establishes Common Goals - Improving the Energy Savings Incurred from Energy Codes

CA Program Implementation Plan (PIP) Statewide Codes and Standards; 2009-2011 Compliance Enhancement Subprogram:

Near Term 2009-2011

- Research of High Priority Solutions (this is for med and long term as well)
- Increase Training and Support for Local Code Officials
- Investigate Regulatory Tools such Licensing and Registration Enforcement
- Evaluate Proposed Changes to Code and Compliance Approaches
- Work with Local Governments to: Improve Code Compliance, Adopt Above Code Ordinances, Provide Training/Education

Medium Term 2012-2015

- Pursue involvement of HERS Raters
- Work with Trade Associations to Improve Self-Policing
- Streamlining Permit Process

Long Term 2016-2020

- Investigate Sticks and Carrots with monetary incentives/penalties
- Investigate Codes that Regulate the Operation of Buildings

Currently under Implementation (details of near term):

- Establishment of Training and Program
 - Role Based Training / Training Centers
- Evaluation of Code Compliance Infrastructure
 - Conduct Gap Analysis
 - Interview Market Actors
 - Identify and Implement Best Practices
 - Establish Pilot
- Investigation of Regulatory Tools
 - Identify Processes and Tools
 - Evaluation of Proposed Changes to Energy Code
- Working with Local Governments

These Examples Demonstrate States That Are or Have Established a Framework for Discussion. Many Details Still Remain to be Worked Out

Pay Attention to Differences between States and Among Local Municipalities

Work is Ongoing to:

- Clarify and Expand types of utility activities (move beyond training)
- Establish measurement and attribution protocols
- Clarify/Address statutory and regulatory hurdles
- Outreach to diverse stakeholders to ensure support

Studies on Code Compliance

DOE EERE – Building Energy Codes Program (BECP)

- **Baseline Studies on Code Compliance**

- Noted in both regional and national significance

- www.energycodes.gov/publications/research/codes_compliance_studies.stm

- **2010-11 Pilot Studies on Code Compliance**

- Utilizing tools (checklists, training, etc) as state/municipal resources and how they effect code compliance

- www.energycodes.gov/arra/pilot_studies.stm

- **Compliance Rate Procedure Webinar – 90 Percent Compliant** is available as a training tool along with a checklist and guidelines

- www.energycodes.gov/arra/compliance_evaluation.stm

Codes Partnership Case Studies Presented:

- **Minnesota Environmental Initiative (MEI) final report:**
www.environmental-initiative.org/images/files/1_5EESolutionsFinalReportwithoutAppendices.pdf
- **Massachusetts**
www.masssave.com
- **California - Division of Rate Payer Advocates & CA Public Utilities Commission Energy Efficiency Plan**
www.dra.ca.gov/DRA/energy/EnergyMgtConservation/Energy+Efficiency/

Upcoming PNNL Paper - “Compliance Verification Paths for Residential And Commercial Energy Codes”

- **Reviews Code Compliance Methods** - prescriptive vs. performance
- **Overall Goal** - Achieving a high level of compliance (90%+)
- **Identifies** current, revised or new compliance paths to help those interested in achieving energy efficient buildings choose the optimum options
- **Traditional Methods** – Confirm Compliance by plan review and construction inspection up to building occupancy
- **New Methods** - Using outcome based performance, (pre or post construction), all building energy use, audit or annual energy use compliance measurement, meet a predefined energy use index level, or a combination of requirements

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Please join us again:

Title: **Partnering with Utilities Part 1 - Successful Partnerships and Lessons from the Field**

Team: ICF International

Date: September 22, 2011

Time: 2:00-3:00 PM EDT

Title: **How to Design and Market Energy Efficiency Programs to Specific Neighborhoods**

Team: ICF International

Date: September 27, 2011

Time: 1:00-2:20 EDT

Title: **Advanced Topics in Power Purchase Agreements (Part2)**

Team: ICF International

Date: Wednesday, September 28, 2011

Time: 2:00 – 3:30PM EDT

For the most up-to-date information and registration links, please visit the Solution Center webcast page at www.wip.energy.gov/solutioncenter/webcasts

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There will be a short **questionnaire** sent to you via email immediately following this webcast. Please take a few minutes to complete these questions. Your feedback is greatly appreciated.