The National Standard Practice Manual and the Value of Energy Efficiency in New York

Stakeholder Forum
In the Matter of a Comprehensive EE Initiative
CASE 18-M-0084

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Overview

- The National Standard Practice Manual
  - Key principles and concepts relevant to New York
- The value of energy efficiency in New York
- The rate impacts of energy efficiency
  - How to assess them
  - How to address them
- Recommendations

BCA Principles: NSPM

1. Recognize that energy efficiency is a resource.
2. Account for applicable policy goals.
3. Account for all relevant costs & benefits (based on applicable policies), even if impacts are hard to quantify.
4. Ensure symmetry across all relevant costs and benefits.
5. Conduct a forward-looking, long-term analysis that captures incremental impacts of energy efficiency.
6. Ensure transparency in presenting the analysis and the results.

BCA Principles: NSPM and NY

Principle	NSPM	NY BCA
Recognize EE as a resource (compare impacts to trad. alternatives)	✓	✓
Account for applicable policy goals	✓	---
Account for all relevant costs and benefits	✓	---
Ensure symmetry across relevant costs and benefits	✓	---
Apply long-term analysis	✓	✓
Apply incremental, forward-looking analysis	✓	---
Ensure transparency	✓	✓
Avoid combining or conflating different costs and benefits	✓	✓
Assess portfolios rather than measures	✓	✓

New York BCA Order: Highlights

- The Societal Cost test will be the primary test
  - This should include environmental externalities.
- Utility Cost and RIM tests will play a subsidiary role
  - To indicate whether more analysis is necessary.
  - A DER may not be rejected because of these tests.
- If the RIM test indicates rate impact concerns
  - A more sophisticated rate and bill impact analysis is required.
  - Including a complete bill impact analysis
  - Analysis should be applied to the whole DER portfolio.

Utility System Benefits: NSPM & NY

Utility System Benefits	NSPM	NY BCA	E3 Study
Avoided Energy Costs	✓	✓	✓
Avoided Generating Capacity Costs	✓	✓	✓
Avoided T&D Upgrade Costs	✓	✓	✓
Avoided T&D Line Losses	✓	✓	✓
Avoided Ancillary Services	✓	✓	
Wholesale Price Suppression Effects	✓	✓	
Avoided O&M	✓	✓	
Avoided net restoration costs	✓	✓	
Avoided Environmental Compliance Costs (e.g., RGGI)	✓	✓	✓
Avoided RPS (or CES) Compliance Costs	✓		
Avoided Credit and Collection Costs	✓		
Reduced Risk	✓		

Market Price Suppression Effects

- These are clearly a part of utility system benefits.
  - As noted in the NY BCA Order.
- These should also be included in the Societal test.
  - The logic in the NY BCA Order is flawed.
- Either way, today's forum is focused on utility value.
  - Which requires including these effects in today's discussion.
- These benefits flow to all customers
  - Participants and non-participants.
  - Will help reduce rate impacts.

Cost of Environmental Compliance

- The avoided cost of environmental compliance
  - Is a utility system benefit.
  - RGGI is one environmental requirement.
  - The Clean Energy Standard is another.
- The Clean Energy Standard
  - 2030 goal: 50% of generation from clean energy
  - 2020 goal: ~23% of generation from clean energy
  - The remaining ~25% will have to come from:
    - New renewables, EE, and DERs.
  - This is likely to be an increasingly significant benefit of EE.
- The social cost of carbon represents additional, external, societal benefits.

Cost-Effectiveness, Rate Impacts, Program Design

Cost Effectiveness

- NSPM: cost-effectiveness should include only long-term, incremental, future costs. Not bill savings.
  - Regulatory (or societal) perspective is primary.
  - Participant perspective not relevant.
- NY BCA Order:
  - Societal perspective is primary.
  - Participant perspective not relevant.
  - Does not mention bill savings.

Rate Impacts

- NSPM: should be addressed separately, if needed.
- BCA Order: should be addressed separately, if needed.

Program Design

- NSPM: participant perspective (and bill savings) is relevant here.

The Rate Impact Measure Test

NSPM: The Rate Impact Measure (RIM) Test not appropriate for cost-effectiveness analyses.

NSPM: Rate impacts (cost shifting) should be assessed separately from cost-effectiveness.

The RIM test has been soundly rejected by commissions across the US and Canada.

NY BCA Order: The RIM test is just an indicator suggesting additional analysis.

Other approaches should be used to assess rate impacts.

Other efforts should be used to address.

NSPM: Assessing Rate and Equity Impacts

A thorough understanding of rate impacts requires a comprehensive analysis of three important factors:

- Rate impacts, to provide an indication of the extent to which rates for all customers might increase.
- Bill impacts, to provide an indication of the extent to which customer bills will be reduced for those customers that install energy efficiency measures.
- Participation impacts, to provide an indication of the portion of customers that will experience bill reductions or bill increases.

Taken together, these three factors indicate the extent to which customers will benefit from energy efficiency resources.

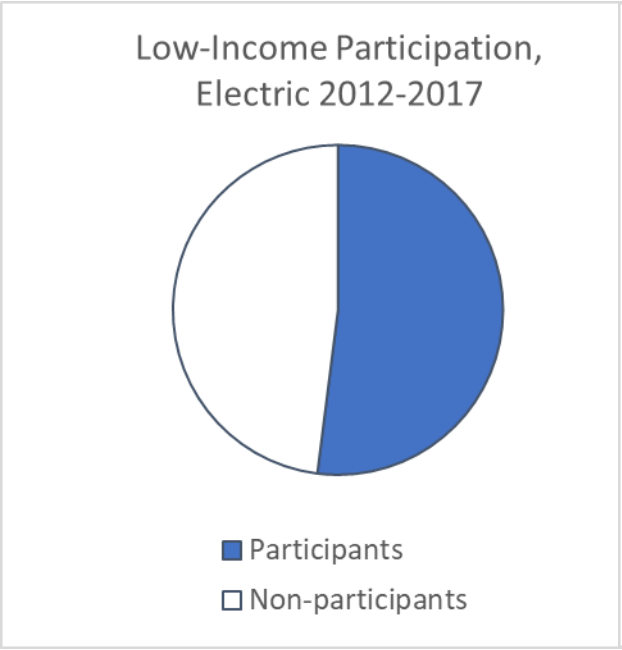
Participation impacts are also key to understanding the extent to which energy efficiency resources are being adopted over time.

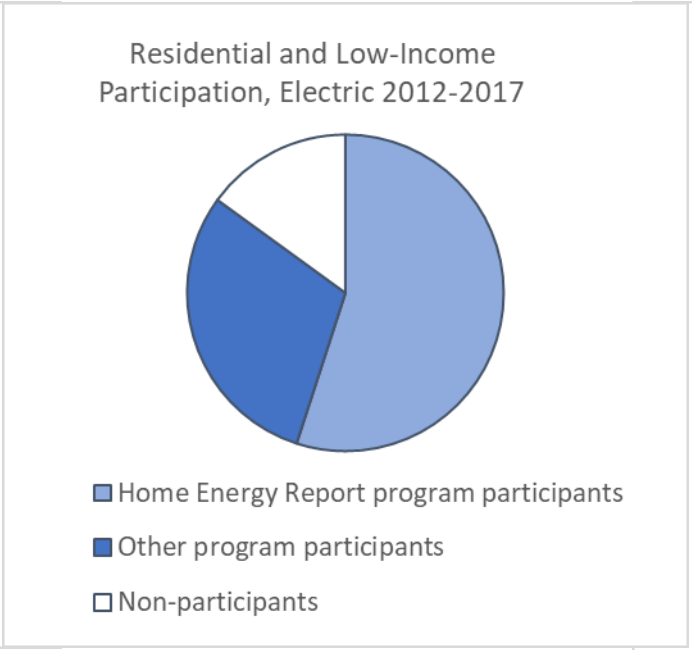
Addressing Rate and Equity Impacts

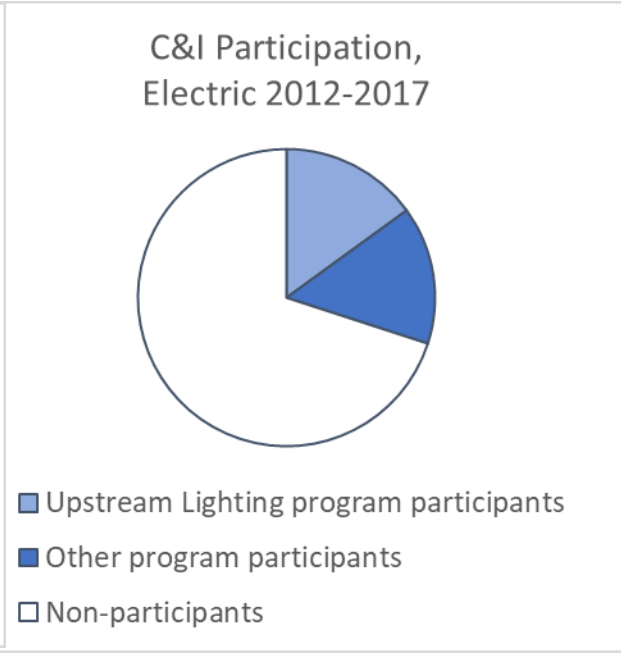
- Equity issues can be mitigated by increasing participation.
- EE participants see reduced bills.
  - Even a small amount of EE savings will offset rate impacts.
- EE participation can be increased in many ways.
  - Efficiency program designs
    - Actively seek hard-to-reach customers
    - Identify and overcome specific market barriers
    - Address all customer sectors and all end-uses
  - Efficiency program budgets
    - Increase program budgets to increase participation
  - Efficiency policies
    - Provide utilities specific participation goals
    - Provide utilities participation incentives (EAMs)

National Grid RI – Participation Rates

Residential and Low-Income results do not include lighting programs.
Lighting programs have reached the vast majority of customers over this period.







A Holistic Approach to Rate Impacts

- Consider rates, bills, and participants.
- Consider impacts on a portfolio level.
  - As required by the NY BCA order.
  - Not on a measure or customer level.
- Consider impacts of other DERs.
  - As required by NY BCA Order.
  - Some DERs might increase rates.
  - Some DERs might reduce rates.
  - The combined effect is what customers experience.
- Energy efficiency offers the best opportunity for wide-scale participation in DERs.

Program Design and Market Barriers (I)

- Imperfect information.
  - Electricity customers businesses, industries, and contractors are often not aware of the full range of energy efficiency options, or lack information on the economic, productivity, and environmental benefits of those efficiency measures.
- Limited product availability.
  - Many energy efficiency measures are produced and distributed on a limited scale and are not readily available to customers, builders, contractors or industries.
- Split incentives.
  - The financial interests of those in a position to implement energy efficiency measures are often not aligned with the interests of those who would benefit from EE.
  - Landlords make capital purchases and maintain buildings, while tenants frequently pay the energy bills.
  - At the time of new construction the builder has incentive to minimize short-term costs, while it is the new owner who would benefit from lower electricity bills over the long-term.

Program Design and Market Barriers (II)

- High transaction costs.
  - An investment of time, money, and hassle may be required to obtain information, make an informed purchase, and install energy efficiency measures. This is a particular problem when construction, renovation or equipment replacement situations require that decisions be made and products obtained quickly.
- Purchasing procedures and habits.
  - Many buildings are constructed, products purchased, and facilities renovated on the basis of minimizing short-term costs, not on minimizing long-term life-cycle costs, including electricity costs.
- Bounded rationality.
  - For many customers, electricity costs represent a small portion of the total costs of maintaining a home, running a business, or operating a factory, so little or no attention is paid to opportunities to reduce these costs.

Program Design and Market Barriers (III)

- Lack of capital access.
  - Customers, businesses, and industries may lack the up-front capital for an energy efficiency product. This is particularly true for low-income and small C&I customers.
- Positive externalities.
  - The societal benefits of energy efficiency – particularly the environmental and economic development benefits – are often not considered by customers and producers seeking to minimize their own costs.
- Uncertainty and risk avoidance.
  - Customers may be skeptical of potential energy efficiency savings, may have doubts about whether an unfamiliar energy efficiency measure will work properly, or may find the more efficient technology to be less attractive or effective than the existing less-efficient technology.

Recommendations on Cost-Effectiveness

- Adhere to key cost-effectiveness principles.
- Account for all relevant utility impacts.
  - Market price suppression effects.
  - Cost of environmental compliance.
  - Risk benefits.
- Account for all relevant societal impacts.
  - Market price suppression effects.
  - Environmental externalities.
  - Societal NEBs.
- Address rate impacts (bill savings) separately.
- Address program design (including bill savings) separately.

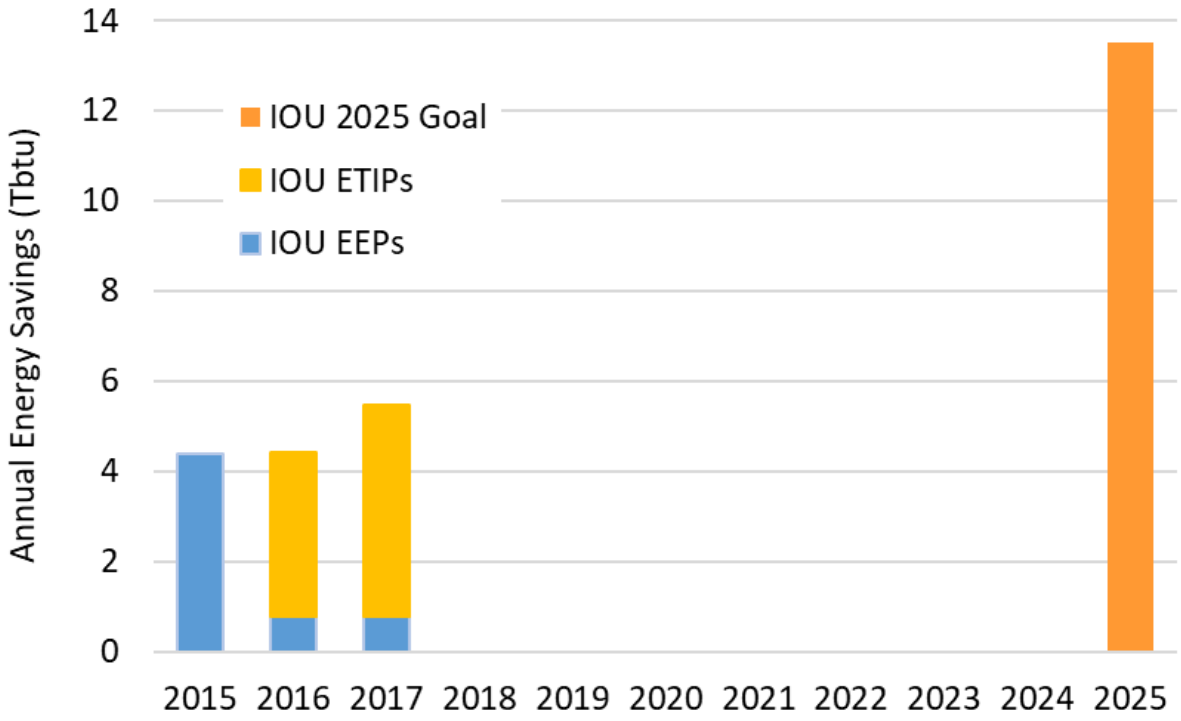
Aligning Energy Efficiency Incentives and Deployment Strategies with Utility System Value

(Afternoon Session)

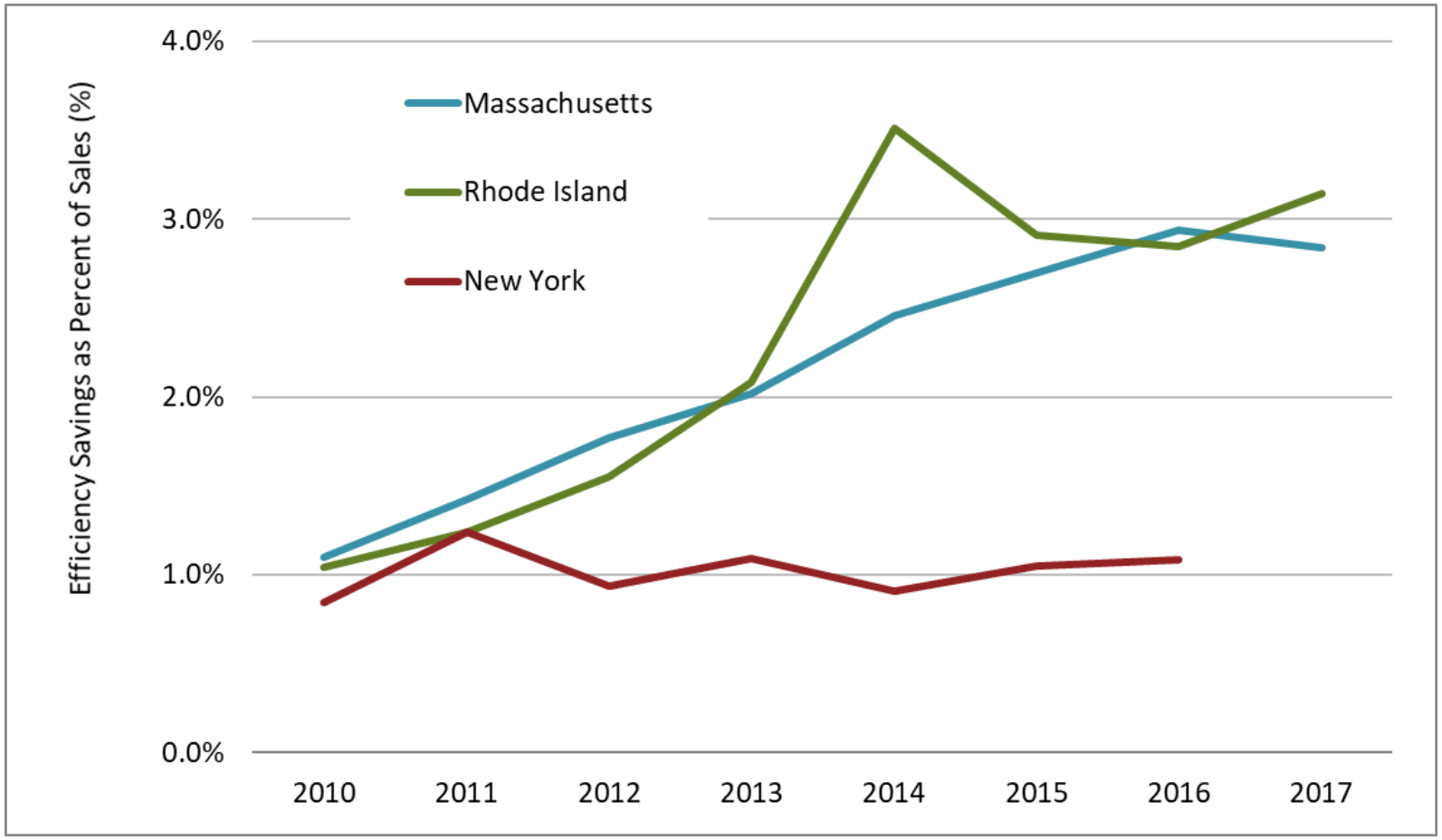
NY 2025 Energy Efficiency Goals

New Efficiency: New York, April 2018

- EE is a cornerstone of NY national leadership on clean energy.
- 2025 Goal: EE savings of 3% of investor-owned utility sales.
- Will require a doubling of EE activities.



Other States Have Already Reached 3% Savings



These savings have been achieved without even considering the details of locational or temporal values.

Recommendations to Help Ramp Up EE (I)

- Start soon and act fast.
- Take advantage of tried-and-true best practices.
- Focus on the big picture.
  - EE is highly cost-effective, from utility and societal perspectives.
  - There remains a lot more EE available.
  - The vast majority of customers can participate in EE.
- Adhere to key cost-effectiveness principles
  - Account for all utility system impacts
  - Account for all relevant societal impacts
  - Address rate impacts (bill savings) separately
  - Address participant perspective (bills savings) separately

Recommendations to Help Ramp Up EE (II)

- Utility program design.
  - Design incentives to overcome market barriers
  - Minimize the utility portion of program costs
  - Provide alternative financing, on-bill financing
  - Animate the EE supply chain – upstream buydown programs
  - Animate third party providers – customer information, etc.
- Use locational and temporal values to get even more EE.
  - Temporal: Time-of-use rates, refined over time
  - Locational: Proxy kickers for constrained areas, refined over time
- Statewide coordination.
  - Statewide EE analyses and program design
  - Budgets and goals set statewide, not by rate cases
  - Statewide stakeholder input

Thank You

Synapse Energy Economics is a research and consulting firm specializing in energy, economic, and environmental topics. Since its inception in 1996, Synapse has been a leader in providing rigorous technical and policy analysis of the electric power and natural gas sectors for public interest and government clients.

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