



Update on Demand Savings Approaches and Discussions

PA Presentation to the EEAC

July 21, 2015





Statutory Background in GCA

- GCA authorizes a focus on both energy efficiency and efforts focused on demand reduction
 - “Each plan shall provide for the acquisition of all available energy efficiency and **demand reduction resources** that are cost effective or less expensive than supply...”
 - “A plan shall include...the amount of demand resources, including efficiency, conservation, **demand response and load management**...a description of programs, which may include, but which shall not be limited to:...**(A) efficiency and load management programs; (B) demand response programs;**...”



Significant Benefits from Both Energy Efficiency and Demand Response

- Energy reductions from EE contribute environmental and economic benefits
- Demand reductions contribute to the ability to defer investments in generation, transmission, and distribution infrastructure
- Helps increase stability/resiliency of the grid
- Helps balance supply and demand
- Articulated priority of the Council
 - 3/31/15 resolution states priority to “realize electric demand savings to significantly mitigate peak demand costs to the electric sector” and “support products and practices that reduce winter and summer peak”



Working Group and Timing

- PAs and consultants working together to discuss alternative efforts focused on creating demand savings for inclusion in 2016-2018 Plan
- Focused on strategy identification and quantification of demand savings value
- Anticipate the need to build flexibility into Plan for demonstration and demand focused projects with expansion of efforts informed by those efforts
 - Identify benefits and costs of alternative strategies
 - Assess customer response to alternative strategies
 - Enable leveraging of smart grid investments

Cost-Effectiveness Considerations

- Current AESC study results support assessing benefit/cost for EE (energy and demand savings) but not for DR
 - Regional effort progressing to develop avoided costs at the time of seasonal “super peaks”
- Current approach to valuing EE investments understate benefits associated with geo-targeting
 - Ongoing work to identify how to better value benefits from geo-targeting while not overstating benefits in other parts of a service territory





Strategies/Solutions – Four Major Buckets

- **Traditional Energy Efficiency**

- PAs already seek and claim kW savings as an element of energy efficiency efforts
- Identify and deploy measures that provide both energy and demand savings
- April Draft Plan includes SW electric summer demand savings of 514,175 kW for 2016-2018;
- Secured demand savings from 2014 efforts: 180,284 kW

- **Demand Response**

- Load curtailment in response to reliability concerns or price spikes
- Could include dispatchable resources as well as behavior related reductions

- **Load Management and Load Shifting**

- Reductions achieved during peak periods but total consumption can increase (e.g., ice storage)

- **Geo-Targeting**

- Focus is to defer capital investments to alleviate geographic constraints
- Example: National Grid's targeted efforts to defer construction of another cable to serve Nantucket
- Current approach to valuing geographically targeted investments understates the value of those investments – working with Dunskey to develop an approach to better capture the full range of benefits associated with geo-targeting

Funding

- GCA enables funding DR through the EERF
- Potential funding source at the ISO
- Exploring options on how to proceed while mitigating short-term customer bill impacts





Considering the Energy Ecosystem

- Grid modernization – leverage investments made through these efforts
 - Behavior related savings as well as dispatchable DR efforts may be enhanced
- Focusing on the role of DR at ISO-NE
- Customer side integration – co-delivery of energy efficiency and demand response
- Be careful to not disrupt existing DR benefits built into some supplier contracts – enhancing but not disrupting the open market

Ongoing Steps

- Working group will continue to meet
 - Likely involve other stakeholders
 - ISO-NE holds very important role
 - Build flexibility into Plan for continued testing and implementation

