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# Association of Energy Engineers - NE Utility Night



March 4th, 2015

Tom Coughlin, Manager – Technical Strategy & Policy

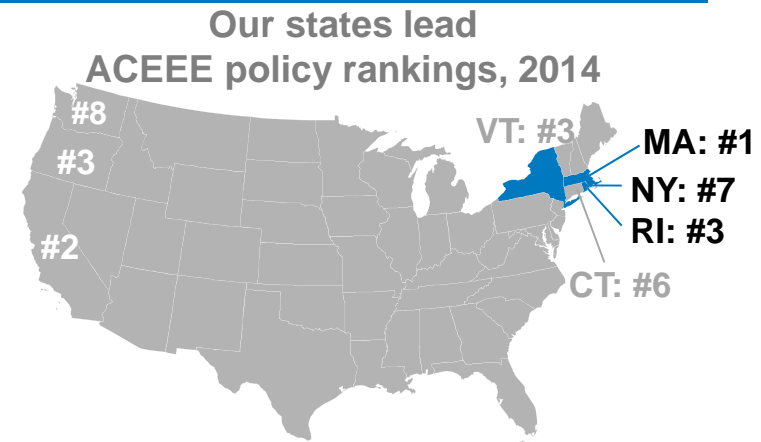


# Energy Efficiency (EE)

## National Grid is a longstanding leader in energy efficiency

### We are recognized for our excellence and active industry role

- Multiple ENERGY STAR Excellence Awards, numerous ACEEE awards, and IEA recognized programs
  - Engaged leader within EE community
    - ASE: Tom King co-chair
    - Board of directors: CEE, AESP, NEEP
- IEPEC, Top 10 USA, Designlights Consortium
- CEE (Consortium for Energy Efficiency), AESP (Association of Energy Service Professionals), IEPEC (International Energy Program Evaluation Conference) NEEP (North East Energy Partnership)



### We operate large-scale EE programs

- Our 2014 budgets, for gas and electric, are one of the largest in the nation
- MA 2013-15 plan is the most aggressive savings goals in the nation
- Beyond 2015, deceleration in growth of customer funding expected<sup>1</sup>

Top Four US EE Utilities	2014 EE budget
<b>National Grid</b>	<b>\$502.0m</b>
Pacific Gas & Electric <sup>2</sup>	\$373.3m
Southern California Edison	\$376.3m
Northeast Utilities	\$526.7m
<b>US total</b>	<b>\$7.1b</b>

<sup>1</sup> Modest budget growth expected in MA and RI, while budget uncertainty exists in NY.

- 1. Outlook of our Energy Efficiency Programs in Rhode Island and Massachusetts**
- 2. The “Next Big Things” and Challenges**
- 3. Is Demand Response really dead – the Non-wires Alternative?**
- 4. The “Non-Wires Alternative**
- 5. Mass Technology Assessment Committe**

# Rhode Island Electric MWh Targets



	<b>2014 (w/o Toray)</b>	<b>2015</b>	<b>2015 Growth (w/o Toray)</b>
New Construction	27,472	35,753	30%
Retrofit	44,275	39,731	-10%
SBDI	21,170	25,798	22%
<b>C&amp;I SUBTOTAL</b>	<b>92,917</b>	<b>101,282</b>	<b>9%</b>

- **77 % of New Constuction Savings comes from upstream programs and a little building codes education**
- **2016 and 2017 targets expected to plateau**
- **NEW target will come from meeting kW targets -30% of bonus incentive**
  - 7.0 MW New Construction
  - 4.9 MW Large C&I Retrofit
  - 5.3 MW Small Business Direct Install

# Rhode Island Gas Targets



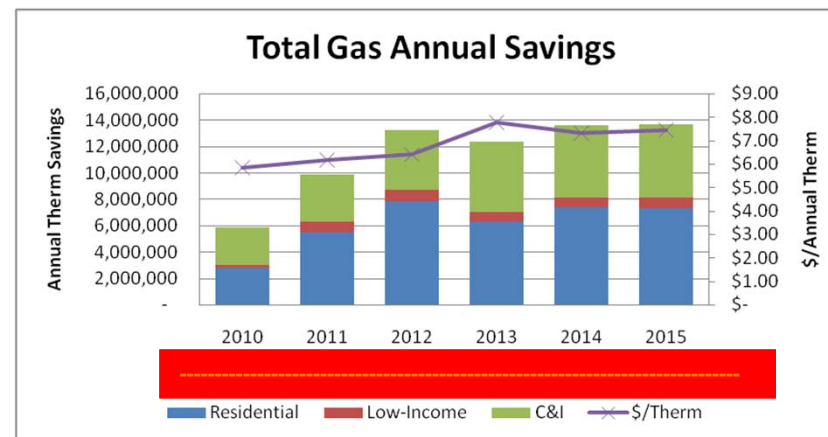
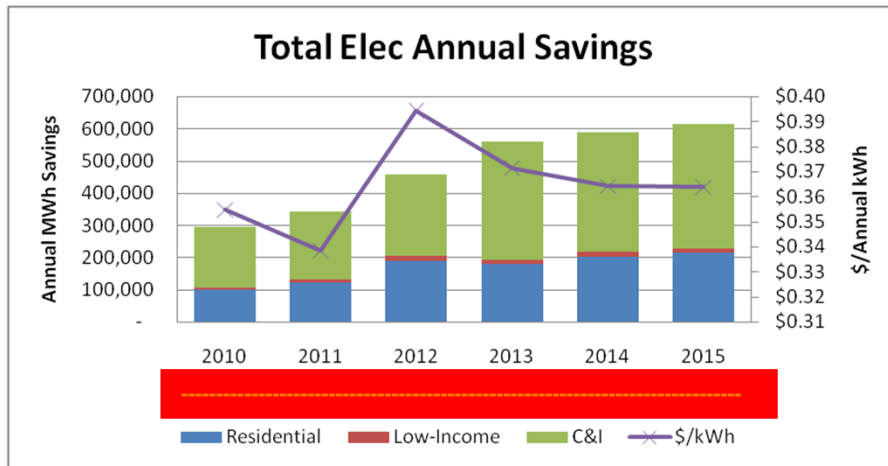
Commercial & Industrial	2014 Therms	2015 Therms	Growth
New Construction	318,635	418,020	31%
Retrofit	1,215,923	1,257,110	3%
SBDI	104,963	34,885	-67%
Multifamily	55,110	93,958	70%
<b>TOTAL</b>	<b>1,694,630</b>	<b>1,803,974</b>	<b>6%</b>

- Unlike electric - 2016 & 2017 targets anticipated to increase ~5% each year

# Statewide Outlook Massachusetts

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Measure: Lifetime benefits not just energy savings



# The Next Big Things

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- The good
  - Building codes are advancing – Net Zero Energy is within reach – integrated design is becoming the norm
  - Technology advancement (LED lighting – advances in HVAC, the “Smart Grid”, Micro Grids, Demand
  - More strategic “vertical” approach to serving markets
  - Energy Efficiency is really becoming a resource



# The Next Big Challenges

- The bad
  - Building codes are advancing – Net Zero Energy is within reach – savings goes down; still defining what this is?
  - Technology advancement (LED lighting – advances in HVAC, the “Smart Grid”, Micro Grids, Demand – Can we adopt fast enough; new approaches to utility regulation
  - More strategic “vertical” approach to markets – prioritization becomes an issue; you can’t serve them all like this.
  - Energy Efficiency is really becoming a resource – Keep an eye on Reforming the Energy Vision (REV)





# Is Demand Response really dead? The Non-Wires Alternatives (NWA)

**Not really, we just call it demand control and treat it locally.**

## ■ Rhode Island

- DemandLink™ pilot in progress uses energy efficiency & demand response to create 1MW of load relief by 2017
- Partnership with the RI Office of Energy Resources (OER) has been integral to the study of solar as an NWA tool – 2015

## ■ Massachusetts

- Nantucket NWA pilot will use EE, DR, and potentially time-of-use rates, renewables and volt-VAR optimization to create 18MW of load relief by 2032 – Defer or avoid a 3<sup>rd</sup> submarine cable to the mainland...also energy efficiency, reinforced

## ■ New York

- Areas under consideration for NWA project development as well as pilot/demonstrations under REV include: Outer Harbor – Buffalo, Cortland, Schenectady, East Syracuse (Manlius).
- Suite of five DR programs will reduce peak load and defer capital expenditures for load growth projects. The proposal will be presented to the NY PSC early 2015 as part of REV and may be included in future NWA projects

**“The reports of my death have been greatly exaggerated”**

**Mark Twain**

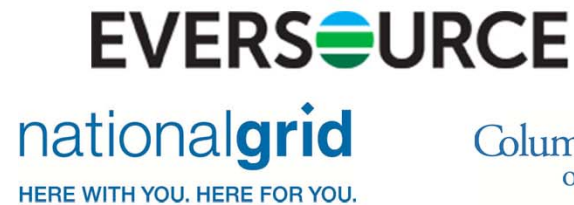
- **“Market transformation” – making energy savings sustainable by promoting design elements that might become code**
- **Manufacturers directly engaged to supply technologies that integrate with demand control opportunities (NY REV uses the term “animate” the market to describe this.**
- **Large utility customers may be asked to “participate” in system reliability improvements.**

**MA AND RI, too early.....watch what happens in NYS.**

# Mass Technology Assessment Committee

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- ✓ Provide proactive mechanism to incorporate new commercially available energy efficiency technologies statewide
- ✓ Provide assessment of new residential and non-residential technologies which have the potential to cost effectively save energy
- ✓ Welcome suggestions from vendors & entrepreneurs for the residential & commercial/industrial market sectors



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**THANK YOU**

