

# INITIAL THOUGHTS: SAVINGS GOALS FRAMEWORK FOR THE 2016-2018 PLAN

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# INTRODUCTION



- ▶ For the process of developing the 2016-2018 Plan, the savings goals are crucial elements
- ▶ Today, we review initial thoughts and draft recommendations on the savings goals framework, which essentially is the *construction* of the goals table without the numbers, to help determine which goals and goal indicators matter most
- ▶ The savings goals framework ultimately becomes part of the negotiated terms sheets for the Plan
- ▶ Savings goals *numbers* are not included in the tables at this time
- ▶ This is one early step focused on key planning issues, for the process of developing and reviewing the 2016-2018 Plan

# SAVINGS GOALS PER THE GREEN COMMUNITIES ACT (GCA)

- ▶ **“...electric and natural gas resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply.” Section 21(a)**
- ▶ **“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 and shall be prepared in coordination with the energy efficiency advisory council...” Section 21(b)(1)**
- ▶ **“The council shall, as part of the approval process by the department, seek to maximize net economic benefits through energy efficiency and load management resources and to achieve energy, capacity, climate and environmental goals through a sustained and integrated statewide energy efficiency effort.” Section 22(b)**

# SAVINGS GOALS ARE INFORMED BY THE ASSESSMENT OF EE POTENTIAL

	Savings (% of Retail Sales)	Assessment of Potential (% of Retail Sales)
<b>Electric</b>	2016: <b>X%</b> 2017: <b>Y%</b> 2018: <b>Z%</b>	<b>IN PROCESS</b>
<b>Gas</b>	2016: <b>A%</b> 2017: <b>B%</b> 2018: <b>C%</b>	<b>IN PROCESS</b>

Initial goals are developed and negotiated using % savings – i.e., lifetime or annual energy savings as a % of annual retail energy sales (which puts all PAs on a common or normalized basis)

# WHAT GOALS ARE *REALLY* USED? AND HOW?

- ▶ Initially, goals are developed and negotiated using % savings – i.e., energy savings as a % of retail sales (in order to put all PAs on a level, normalized basis)
- ▶ BUT, in the Three-Year Plans and Reports, the % savings goals used for goal development and negotiation are translated into the *real* goals, which the DPU acts on:
  - Annual savings (physical units of kWh and therms, not %)
  - Lifetime savings (savings over the measure lives)
  - Benefits (\$, economic value of the energy savings and the peak demand reductions, for all resources, plus non-energy impacts)
  - Net benefits (\$, benefits minus costs)
- ▶ AND the performance incentives are based mainly on:
  - “Savings” component – based on achievement of benefits (\$)
  - “Value” component – based on achievement of net benefits

# SAVINGS GOAL FRAMEWORK

## Electric Goals, 2013-2015 Plan (as an example)

	2013	2014	2015
Annual Energy Savings as % of Energy Sales	2.50%	2.55%	2.60%
Annual Energy Savings Goals (MWh)	1,194,114	1,235,761	1,272,969
Benefits (\$)	\$	\$	\$

  

Lifetime Energy Savings	} ← Potential Additional Goals in Framework
Summer Peak Demand Savings	
Winter Peak Demand Savings	

Additional goals for the EEAC to consider in its framework for goals:

- Lifetime savings, as a primary goal with more emphasis than annual savings, consistent with “seeking to maximize net economic benefits,” and as an indicator of savings over time (not just for one year)
- Peak demand reductions (MW), for both summer peak and winter peak periods, as important EE benefits for the region

# SAVINGS GOALS FRAMEWORK FOR THE 2016-2018 PLAN -- ELECTRIC

DRAFT Preliminary Savings Goal Framework (the savings portion of the Term Sheets)				
ELECTRIC	2016	2017	2018	Total 2016-2018
Annual Retail Energy Sales (MWh)				
Lifetime Energy Savings as % of Annual Energy Sales				
Lifetime Energy Savings Goals (MWh)				
Annual Energy Savings as % of Energy Sales				
Annual Energy Savings Goals (MWh)				
Summer Peak Demand Reductions (kW)				
Winter Peak Demand Reductions (kW)				
Benefits (\$, million)				
Cost per Lifetime kWh Saved (\$)				
Cost per Annual kWh Saved (\$)				
PA Budget (\$, millions)				
Measure Life (Years)				

Colored rows show the recommended additions for 2016-18:

- Lifetime energy savings (and related quantities) in yellow
- Peak demand reductions, summer and winter, in blue

# SAVINGS GOALS FRAMEWORK FOR THE 2016-2018 PLAN -- ELECTRIC

ELECTRIC	2016
Annual Retail Energy Sales (MWh)	
Lifetime Energy Savings as % of Annual Energy Sales	
Lifetime Energy Savings Goals (MWh)	
Annual Energy Savings as % of Energy Sales	
Annual Energy Savings Goals (MWh)	
Summer Peak Demand Reductions (kW)	
Winter Peak Demand Reductions (kW)	
Benefits (\$, million)	
Cost per Lifetime kWh Saved (\$)	
Cost per Annual kWh Saved (\$)	
PA Budget (\$, millions)	
Measure Life (Years)	

Other years →

# SAVINGS GOALS FRAMEWORK FOR THE 2016-2018 PLAN -- GAS

GAS	2016	Other years →
Annual Retail Energy Sales (Therms)		
Lifetime Energy Savings as % of Annual Energy Sales		
Lifetime Energy Savings Goals (Therms)		
Annual Energy Savings as % of Energy Sales		
Annual Energy Savings Goals (Therms)		
Benefits (\$, million)		
Cost per Lifetime Therm Saved (\$)		
Cost per Annual Therm Saved (\$)		
PA Budget (\$, millions)		
Measure Life (Years)		

Colored rows show the recommended additions for 2016-18:

- Lifetime energy savings (and related quantities) in yellow

# -- COUNCIL DISCUSSION -- SAVINGS GOALS FRAMEWORK

- ▶ **Council questions on the draft savings goals framework for the 2016-2018 Plan, for electric and gas**
- ▶ **Council review and discussion of the recommended savings goals framework**
- ▶ *Note: the slides that follow provide background on lifetime energy savings and peak demand reductions, which may be useful for councilors to review, following up on the presentation on February 25.*

# LIFETIME SAVINGS AND ANNUAL SAVINGS AS GOALS

- ▶ Lifetime savings are an indicator of savings over time (not just for one year as in annual savings)

Residential Savings (MWh)	Annual	Lifetime	Measure Life
<b>Behavior</b>	139,644	139,644	1 year
<b>Lighting</b>	148,167	1,073,875	7.2 years
<b>Home Energy Services</b>	32,634	294,453	9.0 years

- ▶ Lifetime savings are used in the calculation of benefits and net benefits, and therefore using lifetime savings is consistent with “seeking to maximize net economic benefits” per GCA
- ▶ **Recommendation:** increase the emphasis on lifetime savings by including both lifetime and annual savings as goals in the savings goals framework and in future reporting

# PEAK DEMAND (MW) SAVINGS OF ENERGY EFFICIENCY PROGRAMS

- ▶ The EE programs are delivering significant electric peak demand savings, in summer and in winter
  - In 2014 alone, the EE programs provided peak demand savings equivalent to a 172 MW power plant
- ▶ These EE peak demand savings (MW) are another benefit of energy efficiency, in addition to energy savings
- ▶ Peak demand savings in summer and winter are valuable for the Commonwealth and are a very important contributor to system reliability in the ISO-NE region
- ▶ **Recommendation:** increase the emphasis on electric peak demand savings by including peak demand (MW) goals in the savings goals framework and in future reporting, for both summer and winter peak periods

# DEMAND RESPONSE CAN ALSO REDUCE PEAK DEMAND (MW)

- ▶ Demand response (DR): programs that encourage energy customers to *temporarily* reduce their demand for electric power or natural gas at certain specified times, to assist with reliability or to mitigate prices, often in exchange for a financial incentive or in response to a market signal.
- ▶ Demand response impacts, if DR is implemented through the existing EE programs (vs. through another mechanism), would be reported on top of the peak demand savings achieved by the EE programs. *The numbers presented above do not include the impacts of any DR activities.*
- ▶ The marketing and delivery of EE programs and DR offerings can be integrated to make it easier for customers to adopt both and to increase the effectiveness and cost-efficiency of both EE and DR, e.g., the EE programs can deliver DR-enabling technology and controls.

# QUESTIONS?

