

Issues that may inform Cost-Effectiveness Screening in the future:

Issues addressed in Proposed Revisions to Standards:

1. Increasing importance of demand management and new and emerging issues.

- a. 2, Section 1.2 (A) (i.) (b) “...measures specifically intended for demand management.”
- b. 2, Section 1.2 (A) (i.) (e) :

The EE Procurement Plan should address new and emerging issues as they relate to least cost procurement (CHP, strategic electrification, integration of grid modernization, gas service expansion, etc.), as appropriate, including how they may provide system, customer, environmental, and societal benefits.

c. 2. Section 1.2 (A) iii (b)

In addition to satisfying other provisions of these Standards, the EE Procurement Plan shall continue to contribute to a sustainable energy efficiency economy in Rhode Island, respond to and transform evolving market conditions, strive to increase participation, and provide widespread consumer benefits.

2. Address Environmental impacts more consistently

a. 2. Section 1.2 (A) (ii.) (b.) (See Attachment A, p.3)

A comparable benefit for greenhouse gas reduction resulting from natural gas or delivered fuel energy efficiency or displacement may be considered.

Themes from New Rhode Island CEP:

3. Themes from CEP:

- a. **Focus on Efficiency Benefits for all customers and all fuels** see 2, c above
- b. **Consider relationship of EE efforts to Infrastructure, Safety and Reliability plans of Utilities.** This would relate to System Reliability Planning and the focus in that context on Integrating SRP with LCP more generally.
 - i. **See Chapter 2, Section 2.1 (A)**

...The System Reliability Procurement Plan should be integrated with the Energy Efficiency Procurement Plan and designed to manage demand and optimize grid performance, using customer side resources.

Analysis of Additional Benefits Attributable To Rhode Island's EE Programs

Benefits due to Winter Gas Constraint

Premise: Benefits from Rhode Island's energy efficiency programs in 2014 were calculated using the 2013 Avoided cost study developed by Synapse.¹ A key input to the calculation of total benefits is the price of wholesale electricity that is being avoided. Since the 2013 AESC study was published, the well-publicized winter gas constraint has driven wholesale prices up dramatically – much higher than forecasted in the study. This analysis attempts to calculate the additional benefits associated with avoiding that expensive power – the benefits above and beyond what was already captured in the 2014 EEPP.²

Comparison of winter wholesale power prices: 2013 Avoided Energy Supply Cost study vs actual prices so far in 2014

	Winter On-Peak (\$/kWh)	Winter Off-Peak (\$/kWh)
2013 AESC	0.053	0.046
2014 ISO	0.109	0.084

Takeaway: Actual wholesale prices are about twice as high as was forecasted in the 2013 AESC

Comparison of Total Additional Benefits:

	Total Electric Benefits (\$M)	Additional Benefits to EEPP	% increase
2014 Electric EEPP	\$367	-	-
2014 adjusted prices	\$379	\$11.5	103.1%
2014-2018 adjusted prices	\$415	\$47.9	113.0%

Takeaway: Depending on how long the gas constraint persists (lower bound = 2014 only, upper bound = 2014 thru 2018), the additional benefits RI ratepayers will realize from 2014's EE programs equates to an additional \$11-\$41 million, which is roughly 3%-13% of benefits in the 2014 EEPP.

¹ <http://www.synapse-energy.com/Downloads/SynapseReport.2013-07.AESC.AESC-2013.13-029-Report.pdf>

² http://www.ripuc.org/eventsactions/docket/4451-NGrid-EEPP2014_11-1-13.pdf

Benefits due to Carbon Mitigation

Premise: The benefits from electric efficiency include a value for carbon mitigation due to the embedded price of carbon from RGGI. If this value -- \$4/short ton of CO₂-- was applied to natural gas the benefits to Rhode Island ratepayers would be higher than reported in the 2014 EEPP.

Methods: \$4/short ton of CO₂ equates to roughly \$0.234/MMBtu.³ This value is then applied to the lifetime MMBtu savings from the 2014 Gas EEPP.

Comparison of Total Additional Benefits:

	Benefits (\$M)
Original Gas 2014 EEPP	\$49
Carbon Value of Gas Efficiency	\$1
% increase	2.0%

Takeaway: If the RGGI value of carbon were extended to other fuels it would result in an additional \$1 million of benefits to RI ratepayers, or an additional 2% of the benefits in the 2014 Gas EEPP.

Benefits due to Price Suppression Effects of Gas Efficiency

Premise: The 2013 Avoided Cost study estimated the value of various price suppression effects from gas efficiency, both for individual states and ISO region as a whole. If these benefits were applied to the projected savings in the 2014 EEPP, the reported benefits would be higher.

Gas Supply DRIPE = a reduction in the quantity of gas used by retail gas customers reduces the demand for gas in producing regions and therefore reduces the market price for that gas supply.

Gas Cross-Fuel DRIPE = A reduction in gas use by retail gas customers reduces the gas supply and gas transportation components of the wholesale gas costs incurred by electric generators, and hence the bid prices submitted by the generators into the wholesale electricity markets and the resulting market prices of electric energy.

³ http://www.eia.gov/environment/emissions/co2_vol_mass.cfm

Comparison of Total Additional Benefits:

	Benefits (\$M)
Original Gas 2014 EEPP	\$49
Gas Supply DRIPE	\$0.1
Gas Cross-Fuel DRIPE	\$1.7
Total Additional Benefits	\$1.8
% increase	3.7%

Takeaway: RI ratepayers are experiencing an additional \$1.8 million in benefits due to price suppression effects of gas efficiency. This equates to an additional 3.7% in benefits.

Regional Benefits of cross-fuel DRIPE: A reduction in gas use by retail gas customers suppresses the price of electricity for RI ratepayers, but also for the ISO region as a whole since the regional market for gas is so interconnected. The value of this price suppression to the ISO region as a whole is significantly higher since so many more ratepayers are affected.

Comparison of Total Additional Benefits:

	Benefits (\$M)
Original Gas 2014 EEPP	\$49
DRIPE Benefits to RI	\$1.8
Addition DRIPE Benefits to ISO	\$29.7
Total Additional Benefits	\$31.4
% increase	64%

Takeaway: Total benefits from price suppression effects of RI’s 2014 gas efficiency programs amounts to roughly \$31.4 million. However, only \$1.8 million of those benefits are realized by RI ratepayers.