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Analysis of National Grid's Renewable Portfolio and Renewable Energy Obligations



RI PUC Technical Session
October 3, 2013



Objectives

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- Overview of National Grid's Renewable Energy Standard ("RES") Procurement Plan
- National Grid's Projected Supply vs. Obligation
- RES Compliance Costs – Historical & Projected
- Historical Market Prices for Rhode Island New Renewable Energy Certificates ("REC")
- Overview of New England Resource Adequacy

Overview of RES Procurement Plan

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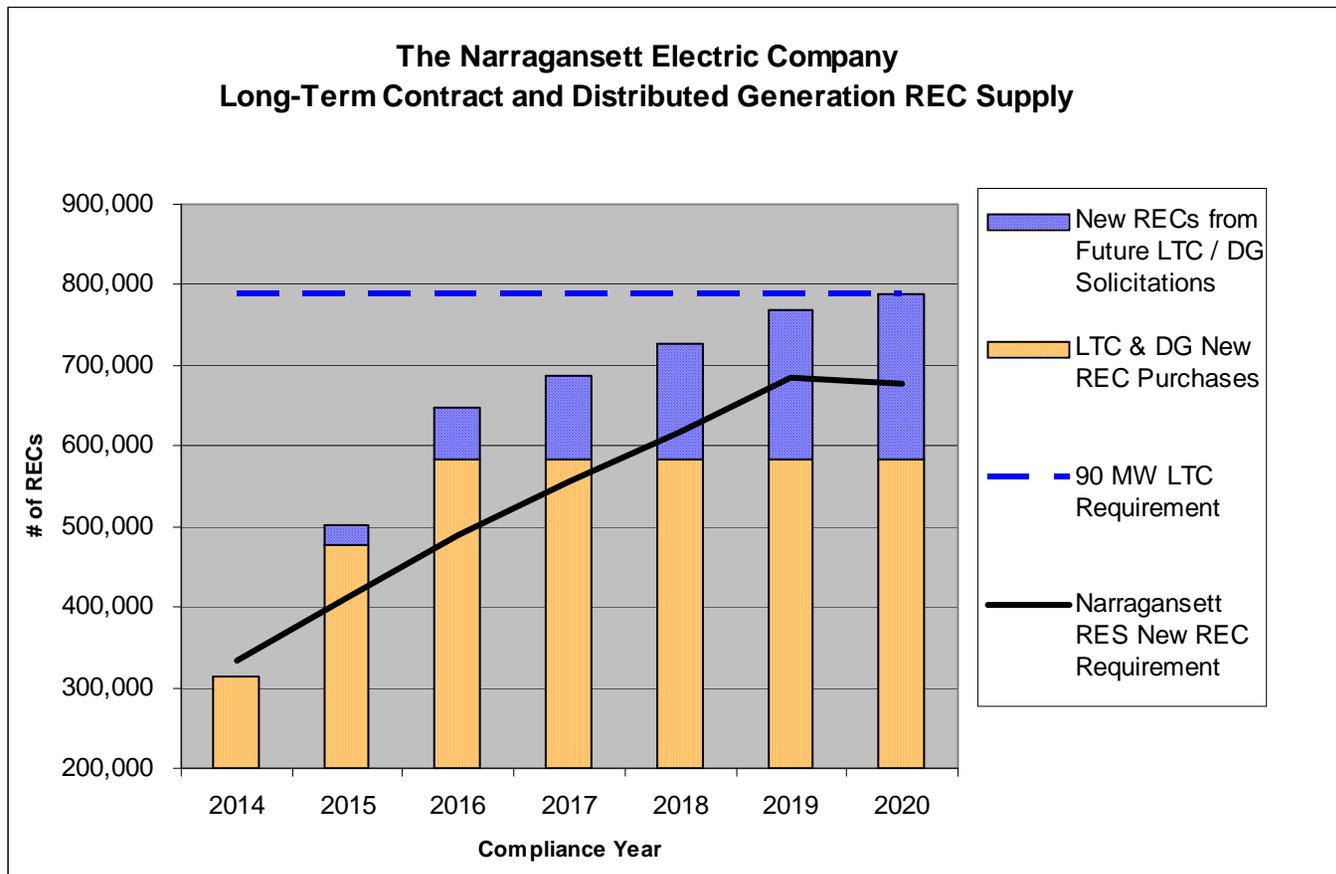
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- The Company's RES Procurement Plan is related to its Standard Offer Procurement Plan, in that they both cover the same load
- Per its approved 2014 RES Procurement Plan, the Company buys RECs to meet its RES requirements (Existing and New categories) through:
 - Full requirements service contracts (for Standard Offer)
 - Standalone RES solicitations
 - REC Brokers
 - Long-Term Renewable Contracts ("LTC") executed under the Long-Term Contracting Standard for Renewable Energy
 - Standard Offer customers are assessed a market price for these New RECs
 - This market price is then credited to distribution customers, offsetting contract costs

Projected LTC REC Supply vs. Obligation for New RECs

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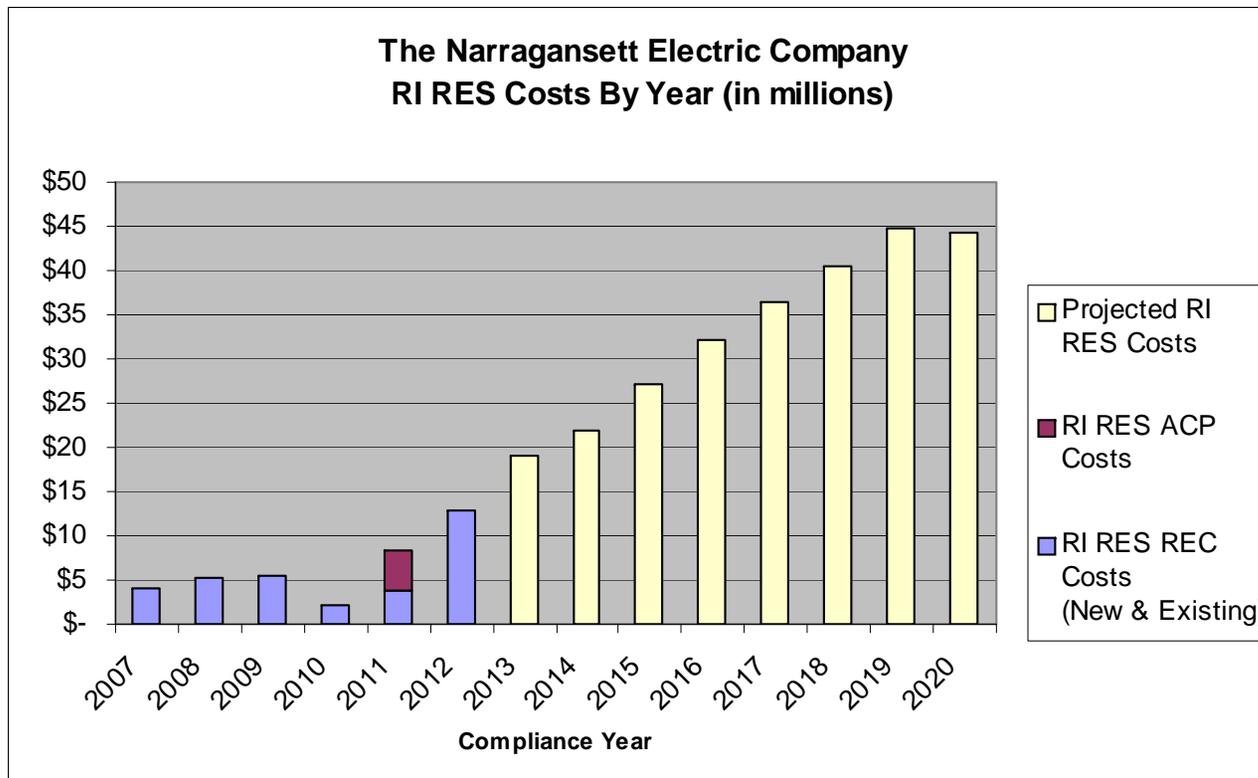
RES Procurement Plan

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- The Company projects oversupply of New RECs from LTC to fulfill its RES obligations beginning in 2015
- For any excess New RECs, per its 2014 RES Procurement Plan:
 - The Company may utilize “banking” as permitted by RES regulations
 - Up to 30% of the New REC obligation may be “banked” for RES compliance use over the following two years
 - The Company may sell any excess New RECs into the market
- Conversely, if any projects under Long-Term Renewable Contracts are delayed and not enough New RECs are produced to meet the RES requirement, then the Company has the ability to obtain New RECs in the market through its other approved procurement methods

RES Compliance Costs



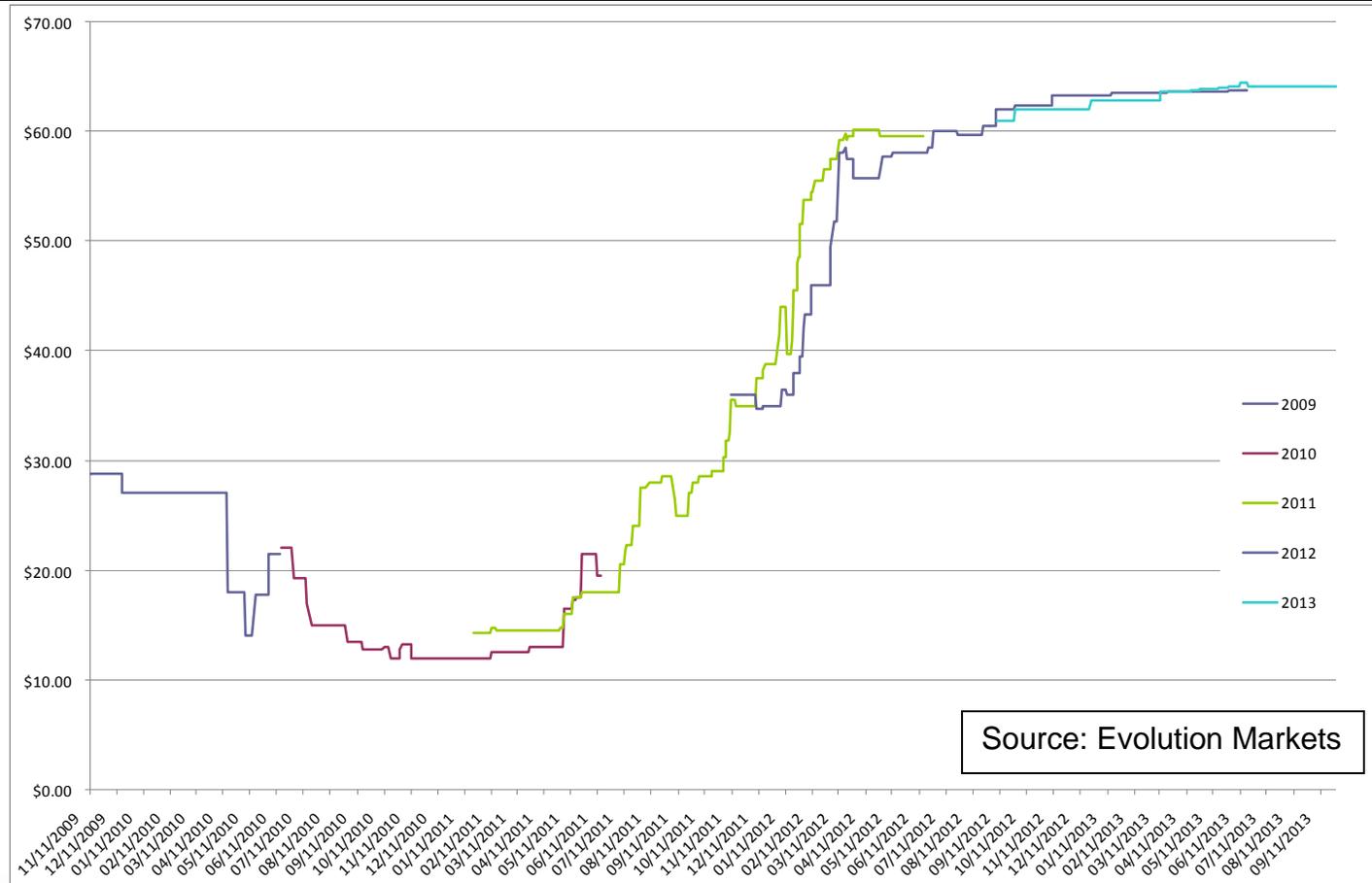
- For projected costs, assumed 2013 ACP (\$65.27) for New REC obligation and \$1.00 for Existing REC obligation



Historical Market Prices for Rhode Island New RECs

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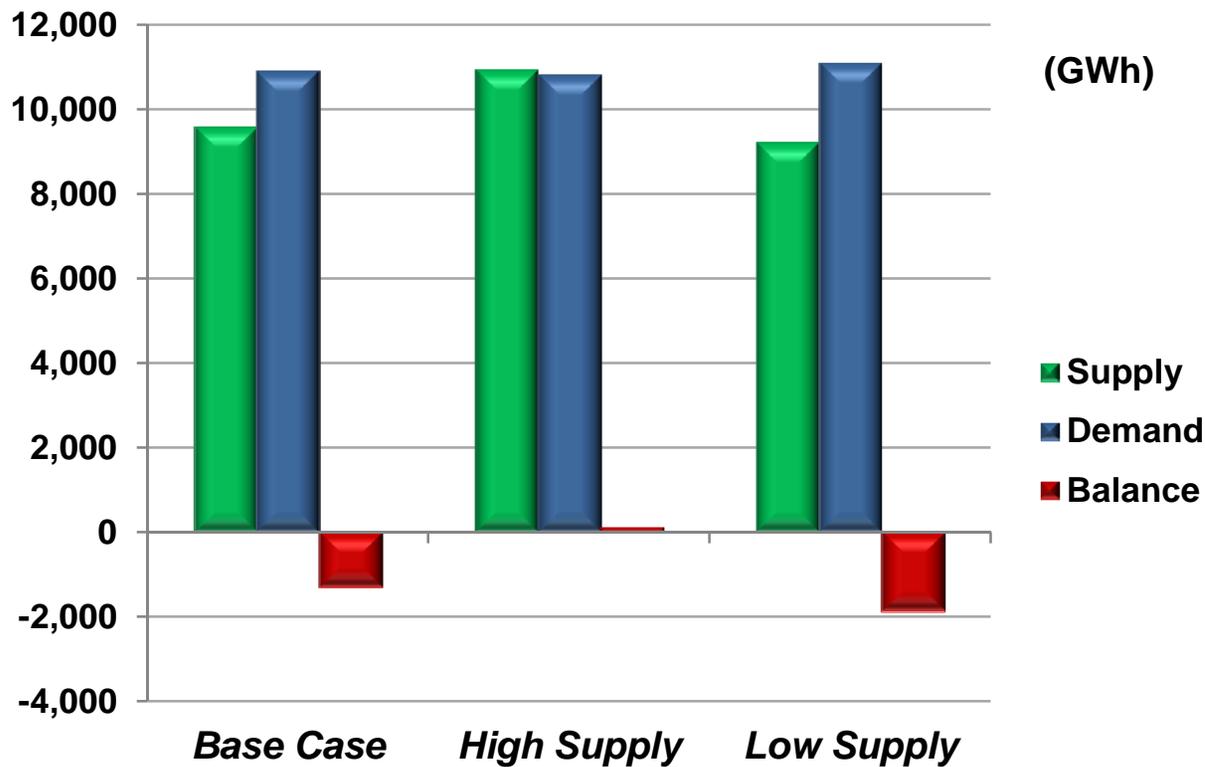


Source: Evolution Markets



ESAI's overview of New England Resource Adequacy in 2015

New England Tier I Renewable Supply/Demand Balance Scenarios



ESAI's overview of New England Resource Adequacy in 2015

Tier I Renewable Energy Supply/Demand Details By Scenario

(GWh)	<u><i>Base Case</i></u>	<u><i>High Supply</i></u>	<u><i>Low Supply</i></u>
<i>Existing Production</i>	5,966	6,136	5,831
<i>Imports</i>	1,504	1,754	1,404
<i>Queue</i>	2,010	2,020	1,991
<i>Future Generation</i>	120	1,040	10
<i>Supply</i>	9,600	10,950	9,236
<i>Demand</i>	10,920	10,837	11,113
<i>Balance</i>	-1,320	113	-1,877



ESAI's overview of New England Resource Adequacy

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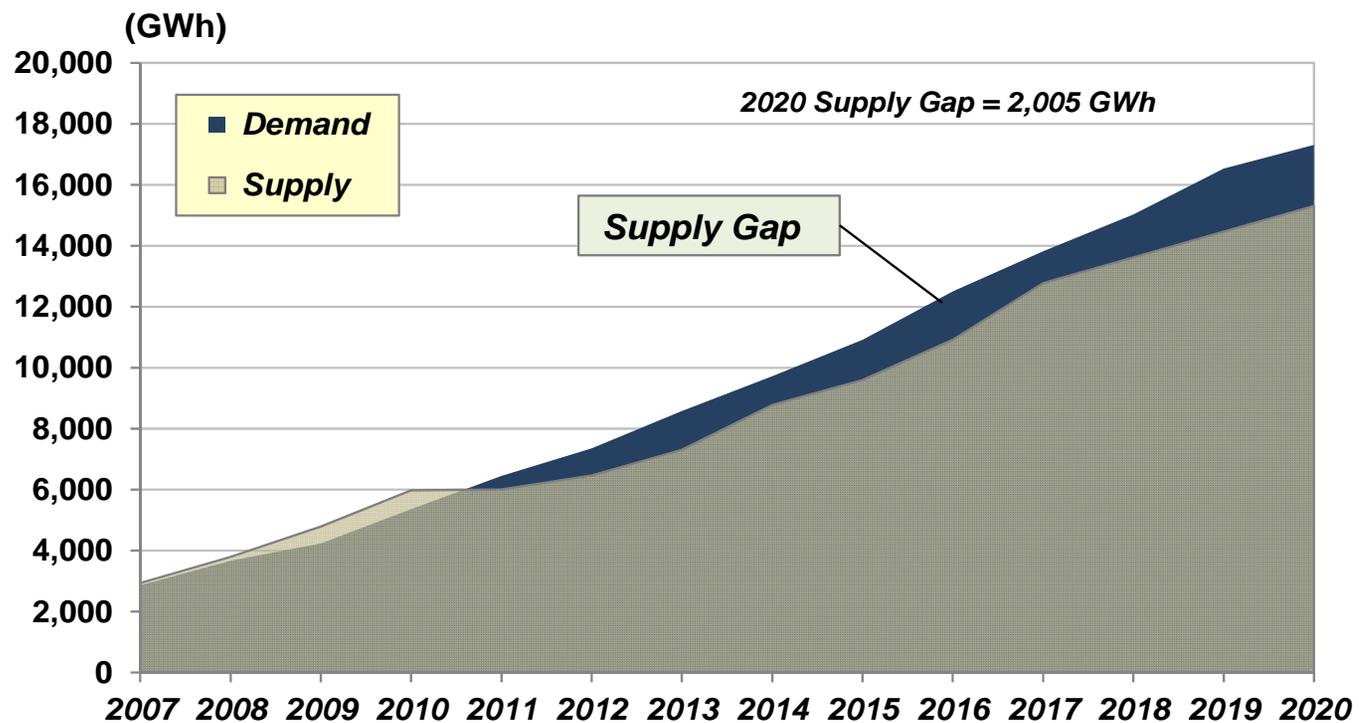
RPS Tier I Portfolio Standards by State

	<u>RI</u>	<u>MA</u>	<u>CT</u>	<u>ME</u>	<u>NH</u>
2007	1.0%	3.0%	3.5%	—	—
2008	1.5%	3.5%	5.0%	1.0%	—
2009	2.0%	4.0%	6.0%	2.0%	0.5%
2010	2.5%	5.0%	7.0%	3.0%	1.0%
2011	3.5%	6.0%	8.0%	4.0%	2.0%
2012	4.5%	7.0%	9.0%	5.0%	3.0%
2013	5.5%	8.0%	10.0%	6.0%	4.0%
2014	6.5%	9.0%	11.0%	7.0%	5.0%
2015	8.0%	10.0%	12.5%	8.0%	6.0%
2016	9.5%	11.0%	14.0%	9.0%	6.9%
2017	11.0%	12.0%	15.5%	10.0%	7.8%
2018	12.5%	13.0%	17.0%	10.0%	8.7%
2019	14.0%	14.0%	19.5%	10.0%	9.6%
2020	14.0%	15.0%	20.0%	10.0%	10.5%

Note: RI Class I requirements above do not include 2% legacy allowance.

ESAI's overview of New England Resource Adequacy

New England Supply & Demand Balances; Base Case, 2015-2020



ESAI's overview of New England Resource Adequacy

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New England Supply & Demand Balances; CT Hydro Case, 2015-2020

