

# Rhode Island Renewable Energy Standard

# **Annual RES Compliance Report For Compliance Year 2011**

January 2013

**Rhode Island Public Utilities Commission** 

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## **Table of Contents**

Execu	ntive Summary	3
I.	Introduction to the Renewable Energy Standard	7
II.	Compliance Year 2011: Obligation and Sources of Compliance	9
III.	2011 RES Compliance by Fuel Type and Geographic Location	14
IV.	Renewable Energy Standard – Future Obligations	18
V.	Authorized Rate Increases and RES Compliance Costs	20
VI.	Renewable Energy Standard Implementation in New England	23
VII.	Conclusion	29
Apper	ndix 1: Certified New Renewable Energy Resources	31
Appe	ndix 2: Certified Existing Renewable Energy Resources	33
Appe	ndix 3: Alternative Compliance Payments	35
Appe	ndix 4: Rhode Island RES 2011 Compliance Summary	36
Appe	ndix 5: Historical Breakdown of Compliance Sources	37
Appe	ndix 6: Voluntary Clean Energy Programs	42
Table	1: Composition of 2011 RES Compliance	3
Table	2: Estimated Rate Impact for 2011 RES Compliance	5
Table	3: Summary of Narragansett Electric's 2011 RES Compliance Costs	6
Table	4: RES Targets, by compliance year, for both new and existing resources	7
Table	5: Obligated Entities Submitting 2011 RES Compliance Filings to the Commission	9
Table	6: Summary of 2011 RES Compliance	13
Table	7: Forecast of RES MWh, by compliance year, for both new and existing resources	19
Table	8: Authorized Rate and Renewable Energy Charge Billings	20
Table	9: Narragansett Electric's RES Compliance Costs, 2007-2011	21
Table	10: Summary of New England States' New Renewable RPS Targets (%)	26
Table	11: Projection of New England States' New Renewable RPS Demand (GWh)	27
Figur	e 1: Distribution of Sources for Compliance with 2011 New RES Obligations	10
Figur	e 2: Distribution of Sources for Compliance with 2011 Existing RES Obligations	11
Figur	e 3: Distribution of Settled 2011 New RES Certificates by Fuel Type	14
Figur	e 4: Distribution of Settled 2011 New RES Certificates by State and Fuel Type	15
Figur	e 5: Distribution of Settled 2011 Existing RES Certificates by Fuel Type	16
Figur	e 6: Distribution of Settled 2011 Existing RES Certificates by State	17
Figur	e 7: Forecast of New England States' New RES Obligations	27
Figur	e 8: 2011 Composition of Aggregate RES Demand in New England	28
Figur	e 9: Projection of 2015 Composition of Aggregate RES Demand in New England	28

### **Executive Summary**

Compliance Year 2011 (from January 1, 2011 through December 31, 2011) was the fifth compliance year for the Rhode Island Renewable Energy Standard ("RES"). Under Rhode Island General Law §39-26-6, the Rhode Island Public Utilities Commission ("Commission") is charged with implementing the RES and ensuring compliance by Obligated Entities. In 2011, each Obligated Entity<sup>1</sup> was required to obtain at least five and one-half percent (5.5%) of electricity (including line losses) sold to Rhode Island end-use customers from Eligible Renewable Energy Resources, with no less than three and one-half percent (3.5%) from New Renewable Energy Resources.

This fifth Annual RES Compliance Report is intended to satisfy the legislative requirement at §39-26-6(f) for a filing on "*the status of the implementation of the renewable energy standards in Rhode Island and other states.*" The legislation specifically requests a summary of the role of both renewable energy certificates and alternative compliance payments in meeting the RES obligation, as well as the amount of rate increases authorized to recover costs arising from implementation of the RES.

The state's 2011 RES-obligated retail sales totaled 8,157,796 MWh. As shown in Table 1 below, the total minimum obligation to be satisfied by New Renewable Energy Resources was 285,531 MWh (3.5% of each Obligated Entity's retail sales). The obligation to be satisfied by either Existing or any remaining New Renewable Energy Resources was 163,165 MWh (2.0% of each Obligated Entity's retail sales).

	New RES Obligation	<b>Existing RES Obligations</b>	
2011 Minimum Obligations <sup>2</sup>	285,531 Certificates	163,165 Certificates	
GIS Certificates Retired for 2011	$201,120,(70,494)^3$	163,162 (99.9%) <sup>4</sup>	
RI RES Compliance (MWh, %)	201,129 (70.4%)		
RI RES Compliance by Alternative	84,402 MWh (29.6%)	3 MWh (0.002%)	
Compliance Payments (MWh, %, \$)	\$5,243,896.26	\$186.39	
Banked for Future Compliance	9,346 MWh	Not Applicable	
Over-compliance / RECs Not Banked	1	129,227 <sup>5</sup>	

Table 1: Composition of 2011 RES Compliance

<sup>&</sup>lt;sup>1</sup> Per §39-26-2, 'Obligated Entity' means a person or entity that sells electrical energy to end-use customers in Rhode Island, including, but not limited to: non-regulated power producers and electric utility distribution companies, as defined in § 39-1-2, supplying standard offer service, last resort service, or any successor service to end-use customers; including Narragansett Electric, but not to include Block Island Power Company or Pascoag Utility District.

<sup>&</sup>lt;sup>2</sup> Please note that the total New and Existing RES obligations may be higher than the 3.5% New and 2.0% Existing of total obligated retail sales due to rounding protocols for individual Obligated Entities.

<sup>&</sup>lt;sup>3</sup> This value includes the application of 7,105 banked RECs from the 2009 and 2010 Compliance Years.

<sup>&</sup>lt;sup>4</sup> Includes the retirement of 2 New RECs utilized by one obligated entity for Existing obligations.

<sup>&</sup>lt;sup>5</sup> Please note that Existing RECs cannot be banked per the Renewable Energy Standard law and rules.

In 2011, New England Power Pool Generation Information System Certificates ("NEPOOL GIS Certificates") – also known as Renewable Energy Certificates ("RECs")<sup>6</sup> – from Rhode Islandeligible "New" renewable energy supply totaled 210,478 MWh, including 7,105 Certificates banked from 2009 or 2010. This represented a 26.3 percent deficit compared to the minimum New RES obligation for all Obligated Entities and may reflect the impact of short supply in the New England REC market, particularly felt in the latter part of 2011.

GIS Certificates from Rhode Island-eligible "Existing" renewable energy supply totaled 292,387 MWh. Nearly 100 percent of existing obligations were met through the retirement of GIS Certificates. After meeting their respective obligations, Obligated Entities combined to procure an excess of 129,222 RECs above the 2011 Existing RES requirement, a 79.2 percent surplus.

An additional 84,405 MWh of "New" and "Existing" obligations was met through Alternative Compliance Payments ("ACPs"), marking a sharp contrast to previous compliance years when nearly all obligations were met by the retirement of RECs. At a 2011 rate of \$62.13 per one MWH of compliance, these ACPs resulted in a total payment of more than \$5.24 million to the Rhode Island Economic Development Corporation ("RI EDC"), consistent with the requirements of Rhode Island General Laws §39-26-4(e) and 39-26-7. This significant reliance on ACPs seems indicative of a Rhode Island-eligible New REC shortage and a general tightening of REC supplies throughout the region.

Seventeen load-serving entities had Rhode Island RES obligations during the 2011 compliance year.<sup>7</sup> Ten of these entities met their entire "New" and "Existing" RES obligations with GIS Certificates. Seven entities – Narragansett Electric and six competitive suppliers – met a portion of their individual RES obligations by making ACPs to the RI EDC. Of these, two competitive suppliers met all of their "New" obligations by making ACPs and one additional entity utilized ACPs to meet their entire "New" and "Existing" obligations.

Seven Obligated Entities (including Narragansett Electric) utilized some of their authorized Banked Compliance in 2011. Collectively, they applied 7,105 MWhs of RES Compliance, which had been banked in either 2009 or 2010, towards their respective 2011 obligations. Nine Obligated Entities banked excess 2011 RES Compliance for use in 2012 or 2013, despite the apparent shortage in the marketplace. This may be a sign of their expectations for a continued supply shortage and higher compliance costs in the coming years.

Additional information on the composition of 2011 RES compliance by fuel type and geographic location is discussed in Section III of this report.<sup>8</sup>

<sup>&</sup>lt;sup>6</sup> The terms GIS Certificate and Renewable Energy Certificate, or REC, are often used interchangeably in the marketplace. While REC is the more general term used to denote a generator's descriptive characteristics (i.e. fuel type, vintage and geographic location) it is the settlement of GIS Certificates within the Obligated Entity's NEPOOL GIS account that substantiates RES compliance.

<sup>&</sup>lt;sup>7</sup> See Table 5 for a complete list of load-serving entities.

<sup>&</sup>lt;sup>8</sup> This summary of New and Existing RES compliance excludes NEPOOL GIS Certificates retired for the purpose of substantiating renewable energy claims associated with end-use customer voluntary purchases above and beyond the RES. Voluntary clean energy programs are summarized in Appendix 6 of this Report.

As shown in Table 2, the authorized RES charge to Narragansett Electric consumers turned into a bill credit during 2011. However, this is not a true indication of market conditions and compliance costs, and the Commission urges that the reader consider the impact of ratemaking procedures and fluctuating market conditions to place these values into their appropriate context. The bill credit indicated below for April 2011 through December 2011 is the result of the reconciling nature of utility rate making. In short, at the beginning of a calendar year, the electric distribution company proposes prospective RES rates based upon detailed market projections and estimated electricity usage in the coming year. These collections are then reconciled against the actual costs incurred to procure RECs or make ACPs throughout the compliance year based upon the electric load served. Thus, the following ratepayer charge and billings data actually reflects the impact of lower-than-anticipated compliance costs during 2010, which resulted in billing over-collections. These revenues were subsequently "returned" to consumers through the 2011 bill credit indicated below.

Compliance Year	Total RES Load Obligation (MWh)	Authorized RES Charge per kWh	Renewable Energy Charge Billings (est.) <sup>9</sup>	Average Monthly/Annual Ratepayer Impact (500 kWh)
January 2011 - March 2011	1,363,065	\$0.00123	\$1,676,570	\$0.615 / \$7.38
April 2011 - December 2011	4,191,207	(\$0.00031)	(\$1,299,274)	(\$0.155) / (\$1.860)

Table 2	: Estimated	Rate	Impact.	for	2011	RES	Compliance
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However, while consumers were receiving this credit, underlying market conditions changed dramatically. Shortage conditions in the regional REC marketplace and increasing demand due to rising annual obligation targets across the New England states helped raise REC prices substantially toward the end of 2011 and throughout 2012. As a result, the 2012 RES rate (effective April 1, 2012 through March 31, 2013) increased from the \$.00031 per kWh *credit* indicated in Table 2 to a *charge* of \$.00253 per kWh, or \$1.27 per month for the average residential ratepayer (500 kWh per month).<sup>10</sup>

Moreover, overall compliance costs have increased dramatically and will likely rise further, particularly in the short-term, as shortage conditions persist and the state's renewable targets increase. For example, as indicated in Table 3 below, Narragansett Electric incurred costs of \$8.43 million to meet its 2011 New and Existing RES obligations. This represented a four-fold increase from 2010 compliance costs (\$2.07 million) and a 53 percent increase from 2009 (\$5.51 million). All of these costs will ultimately be recovered from ratepayers utilizing the rate making

<sup>&</sup>lt;sup>9</sup> This data is based upon the distribution utility's (Narragansett Electric) calendar year deliveries and represents an approximate cost to ratepayers for RES compliance. Narragansett Electric's customers represent approximately 68 percent of the total retail load deliverables in Rhode Island.

<sup>&</sup>lt;sup>10</sup> For additional information, see Commission Docket 4314 at: www.ripuc.org/eventsactions/docket/4314page.html.

mechanism indicated above. It should also be noted that this data only represents charges incurred by customers of Narragansett Electric, which accounts for approximately 68 percent of all retail load statewide. The remaining 32 percent of statewide electric load is serviced by competitive suppliers for whom the Commission does not have access to compliance cost data. Thus, the true total ratepayer cost for implementation of Rhode Island's Renewable Energy Standard is unknown.

	TOTAL	New	Existing	ACP	Obligated
	RES	REC	REC	Costs	Load
	COSTS	Costs	Costs		(MWh)
2011	\$8.43 million	\$3.85 million	\$0.05 million	\$4.53 million	5,554,272

#### Table 3: Summary of Narragansett Electric's 2011 RES Compliance Costs

Overall, despite the apparent shortage of New Rhode Island-eligible RECs and shortage conditions throughout New England, the state's Renewable Energy Standard continues to operate successfully. All of the state's Obligated Entities met their obligations in full, either by the retirement of RECs or through the use of ACPs. The number of Rhode Island-eligible generating units continues to grow, as does the number of new renewable energy projects proposed throughout the region and adjacent control areas. Moreover, the Alternative Compliance Payment mechanism is working as intended, resulting in payments to the Rhode Island Economic Development Corporation during a period of constrained REC supply. These dollars should be used to spur new renewable development throughout the state and, over time, help alleviate some of those supply pressures. After paying their largest ACPs to date and adjusting for tighter REC supplies, certain entities are likely to implement more focused REC-purchasing strategies going forward.

In conjunction with the numerous mandates passed in recent years designed to support renewable development in Rhode Island, the Commission remains cautiously optimistic that the supply of Rhode Island-eligible New Renewable Energy Resources will continue to grow and that obligated entities will be poised to take full advantage of new supply when it is made available. However, continued economic stagnation, uncertainty over the long-term availability of federal incentives, and other factors impacting investment decisions – coupled with increasing renewable energy mandates throughout the region – all have the potential to tighten renewable energy supply further. This could worsen the apparent REC shortage in coming years and almost certainly raise compliance costs for Obligated Entities and their Rhode Island ratepayers, particularly in the near-term. These market pressures make it a fitting time for the Commission to consider the potential adequacy of renewable energy supply and the costs associated with meeting the Renewable Energy Standard. In 2013, the Commission will open a docket to consider renewable energy supplies and future increases in RES targets consistent with Rhode Island General Law §39-26-6(d). In the meantime, it will continue to follow market developments and their potential impact on the Renewable Energy Standard.

#### I. Introduction to the Renewable Energy Standard

The Rhode Island Renewable Energy Standard ("RES") was enacted in 2004 via Rhode Island General Laws §39-26-1 *et seq* and requires the state's retail electricity providers, excluding Pascoag Utility District and Block Island Power Company, to supply 16.0 percent of their retail electricity sales from eligible renewable energy resources by 2019. The RES remains in effect (at 2019 levels) in 2020 and each year thereafter, unless and until the Rhode Island Public Utilities Commission ("Commission") determines that the standard is no longer necessary.

As shown in Table 4, the RES required all Obligated Entities to obtain at least 5.5 percent of electricity sold to Rhode Island end-use customers (inclusive of losses) from Eligible Renewable Energy Resources for the 2011 Compliance Year (January 1, 2011 through December 31, 2011). No more than 2.0 percent could be from Existing Renewable Energy Resources and a minimum of 3.5 percent must have been obtained from New Renewable Energy Resources.

Compliance Year	Total Target Percentage	Minimum Percentage from New Renewable Energy Resources	Percentage from <i>either</i> Existing <i>or</i> New Renewable Energy Resources
2007	3.0%	1.0%	2.0%
2008	3.5%	1.5%	2.0%
2009	4.0%	2.0%	2.0%
2010	4.5%	2.5%	2.0%
2011	5.5%	3.5%	2.0%
2012*	6.5%	4.5%	2.0%
2013*	7.5%	5.5%	2.0%
2014*	8.5%	6.5%	2.0%
2015*	10.0%	8.0%	2.0%
2016*	11.5%	9.5%	2.0%
2017*	13.0%	11.0%	2.0%
2018*	14.5%	12.5%	2.0%
2019*	16.0%	14.0%	2.0%
2020 and thereafter**	16.0%	14.0%	2.0%

Table 4: RES Targets, by compliance year, for both new and existing resources

\* Under §39-26-6(d), the Commission had to determine by January 1, 2010, and will again have to determine by January 1, 2014, the adequacy or potential adequacy of renewable energy supplies to meet the increase in the percentage requirements for 2011 and 2015, respectively. In Docket 4050, the Commission found that potential adequate supply did exist for 2011. \*\* Duration of continuation subject to Commission determination.

Additional design elements of the RES were developed through a stakeholder process and adopted via the Rules and Regulations Governing the Implementation of a Renewable Energy Standard, which first became effective on December 7, 2005. Revised RES Regulations became effective on July 25, 2007. The RES Regulations require, among other provisions, that all Obligated Entities submit annual compliance filings to the Commission. This Annual Report is

based on an aggregated summary of these compliance filings and is intended to satisfy the reporting requirements related to the enabling legislation at §39-26-6(f) which states that the Commission:

Report, by February 15, 2006, and by February 15 each year thereafter, to the governor, the speaker of the house and the president of the senate on the status of the implementation of the renewable energy standards in Rhode Island and other states, and which report shall include in 2009, and each year thereafter, the level of use of renewable energy certificates by eligible renewable energy resources and the portion of renewable energy standards met through alternative compliance payment.

The RES statute defines eligible New and Existing Renewable Energy Resources at §39-26-5. All Renewable Energy Resources must be certified by the Commission (and maintain this certification) in order to participate in the RES program. Lists of New and Existing Renewable Energy Resources currently certified by the Commission are provided as Appendices 1 and 2, respectively. An up-to-date status of all approved and pending eligibility applications can be found on the Commission website at <u>www.ripuc.org/utilityinfo/res.html</u>.

All Renewable Energy Resources must also establish and maintain an account with the NEPOOL Generation Information System ("NEPOOL GIS"). NEPOOL GIS maintains a record of each generator's monthly production, as well as the generator's descriptive characteristics such as generator location, fuel type and actual emissions. One GIS Certificate – also known as a Renewable Energy Certificate ("REC")<sup>11</sup> – is created for each MWh of energy production. The GIS Certificate is the currency used to demonstrate compliance with the RES, as well as mandatory renewable energy requirements in other states and voluntary renewable energy transactions. Through the use of GIS Certificates, which are created and transferred exclusively within the NEPOOL GIS, and the annual submission of RES compliance reports, the Commission ensures that a GIS Certificate used for RES compliance has not also been used to satisfy another obligation in Rhode Island or any other jurisdiction.

<sup>&</sup>lt;sup>11</sup> The terms GIS Certificate and Renewable Energy Certificate, or REC, are often used interchangeably in the marketplace. While REC is the more general term used to denote a generator's descriptive characteristics (i.e. fuel type, vintage and geographic location) it is the settlement of GIS Certificates within the Obligated Entity's NEPOOL GIS account that substantiates RES compliance.

## **II.** Compliance Year 2011: Obligation and Sources of Compliance

Compliance Year 2011 (from January 1, 2011 through December 31, 2011) was the fifth compliance year for Rhode Island's RES. Each Obligated Entity was required to obtain at least 5.5 percent of electricity (including line losses) sold to Rhode Island end-use customers from Eligible Renewable Energy Resources, with no less than 3.5 percent from New Renewable Energy Resources.

Rhode Island's actual 2011 RES-obligated retail sales totaled 8,157,796 MWh. As a result, the aggregate minimum New RES Obligation (3.5%) was 285,531 MWh, while the aggregate New or Existing RES Obligation (2.0%) was 163,165 MWh.<sup>12</sup> Obligated Entities were required to meet the RES either through the purchase and retirement of GIS Certificates or through the provision of Alternative Compliance Credits, obtained by making Alternative Compliance Payments ("ACPs") to the Rhode Island Economic Development Corporation ("RI EDC"). The RI EDC sets these funds aside in the Renewable Energy Development Fund, established under \$39-26-7, to support investments in renewable energy. In 2011, the ACP rate was \$62.13 per MWh of obligation. The rate is the same for both New and Existing obligations. See Appendix 3 for additional information regarding Alternative Compliance Payments.

In total, seventeen entities submitted RES Compliance Filings to the Commission for 2011 including Narragansett Electric and sixteen competitive electricity providers, as shown in Table 5. Appendix 4 lists all entities from whom Compliance Filings were received and provides a detailed summary of RES compliance for Narragansett Electric Company along with a more limited summary for competitive retail electricity providers.<sup>13</sup>

Distribution Utilities	
The Narragansett Electric Company d/b/a National Grid	
Competitive Retail Providers	
Constellation New Energy, Inc.	Integrys Energy Services, Inc.
Devonshire Energy, LLC	Liberty Power Holdings, LLC

Noble Americas Energy Solutions LLC

Westerly Hospital Energy Company LLC

South Jersey Energy Company TransCanada Power Marketing Ltd.

Mint Energy, LLC

SJH Energy LLC

Table 5: Obligated Entities Submitting 2011 RES Compliance Filings to the Commission

Direct Energy Business, LLC

First Point Power, LLC

Hess Corporation

Direct Energy Services, LLC (Energy America, LLC)

NextEra Energy Services Rhode Island, LLC

Glacial Energy of New England, Inc.

<sup>&</sup>lt;sup>12</sup> Please note that the total New and Existing RES obligations are slightly higher than the 3.5% New and 2.0% Existing of total obligated retail sales due to rounding protocols for individual Obligated Entities.

<sup>&</sup>lt;sup>13</sup> The limited competitive supplier data presented in Appendix 4 is a result of the Commission's confidential treatment of their filings. Thus, competitive supplier information within this report is only presented in a summarized fashion to avoid the potential identification of proprietary business activities.

Ten of the state's Obligated Entities met all of their respective "New" and "Existing" RES obligations with GIS Certificates. Seven entities – Narragansett Electric and six competitive suppliers – met a portion of their individual RES obligations by making ACPs to the RI EDC. Of these companies, two competitive suppliers met all of their "New" obligations by making ACPs and one additional entity utilized ACPs to meet their entire "New" and "Existing" obligations. Additional information on ACPs and their increased utilization in 2011 can be found later in this Section.



Figure 1: Distribution of Sources for Compliance with 2011 New RES Obligations

As shown in Figure 1 above, 70.4 percent of New RES compliance was met with GIS certificates, with roughly 30 percent being met by ACPs. Seven of the state's seventeen Obligated Entities made use of the Banked Compliance flexibility mechanism in 2011. Under the RES rules, Obligated Entities are allowed to bank excess compliance (New RECs only) for up to two subsequent compliance years, capped at thirty percent of the current year's obligation. Together, these entities applied 7,105 Certificates banked in either 2009 or 2010 towards their respective 2011 obligations. In addition, nine Obligated Entities banked a combined 9,346

MWhs of New RES compliance for use against future New RES Obligations.<sup>14</sup>

In regards to Existing RES Obligations, nearly 100 percent of compliance was realized through the retirement of GIS Certificates. Two Obligated Entities combined to submit ACPs for a total of 3 MWh of Existing RES obligations, resulting in payments of \$186.39 to the RI EDC. Also, as shown in Figure 2, a surplus of 129,227 RECs were obtained from Existing resources in 2011, resulting in significant over-compliance.<sup>15</sup> Unlike "New" RECs, RECs generated by "Existing" renewable facilities cannot be banked for future use.



Figure 2: Distribution of Sources for Compliance with 2011 Existing RES Obligations

<sup>&</sup>lt;sup>14</sup> One Obligated Entity purchased one excess new REC which was not eligible to be banked under the RES rules, as they exceeded their annual cap.

<sup>&</sup>lt;sup>15</sup> Obligated Entities settled a total of 129,227 Existing RECs above their 2011 RES Obligations and one New REC above the 30% banking cap. It is possible that these companies inadvertently over-purchased RECs anticipating higher sales or they purchased them intentionally to promote a "green" image, corporate responsibility, etc.

Overall, the ACPs made for 2011 obligations resulted in total payments of \$5,244,083 to the RI EDC, nearly all of which was for New RES obligations. The use of ACPs increased significantly compared to the previous three compliance years. In 2008, retail electricity providers relied on ACPs to meet just 0.13 percent of their total New and Existing obligations, resulting in payments of \$21,792 to the RI EDC. This limited use of ACPs for New RES compliance continued into the 2009 (\$122) and 2010 (\$21,813) compliance years.

As indicated, in 2011, ACPs were used to meet 29.6 percent of New RES compliance. This ACP usage is similar to that demonstrated in the first compliance year – 2007 – when Obligated Entities met nearly 30 percent of their New RES compliance through ACPs. The 2007 Annual RES Compliance Report noted that this result was not unexpected, as similar programs throughout the region experienced a similar occurrence in their first year due to the market's lack of experience with implementing RES regulations. However, the same cannot be said for 2011. In this instance, the increased use of ACPs was indicative of a tightening in Rhode Island-eligible REC supply throughout the region and increased demand resulting from the growth in state renewable targets.

There are several factors which may have contributed to constraining renewable supply, particularly in the latter part of 2011 and continuing throughout 2012. For instance, recent increases to the nation's natural gas supply and its impact on natural gas fuel prices has been a factor in making gas-fired power plants in New England and elsewhere more economical to run. As those plants are economically dispatched to generate more power, other resources – particularly some renewables – are displaced because they have become more expensive to run, relatively speaking. When renewable generation units are not running, they are also not generating RECs. Furthermore, in past years, the region has benefited from additional renewable energy supply and RECs exported from our neighboring control area of New York. More recently, those New York-based units have been increasingly contracted to meet the renewable needs of the Empire State itself, resulting in fewer exports and further reductions to potential REC supply in New England. Finally, a continuation of stagnant economic conditions and uncertainly related to federal renewable tax credits likely restrained the ability of renewable developers to invest in and finance new projects.

On the demand side, each New England state's renewable energy targets are increasing on an annual basis. In general, individual state targets (including Rhode Island's) have been increasing at one percentage point per year, as noted in Section VI of this report. When combined with lower regional supply, this incremental, collective growth in regional renewable mandates is contributing to a general supply and demand imbalance, while placing upward pressure on REC prices. It should be noted that, in Rhode Island and Connecticut, renewable targets are scheduled to grow by 1.5 percentage points annually beginning in 2015.

A summary of 2011 RES Compliance, including information on ACPs and banked certificates, is presented in Table 6.

#### Table 6: Summary of 2011 RES Compliance

Result	(MWh)	
А	2011 RES Obligated Retail Sales	8,157,796
A.1	Narragansett Electric	5,554,272
A.2	Competitive Suppliers (16 in total)	2,603,524

#### New RES Obligations and New Renewable Energy Certificates

В	Total 2011 New RECs Settled in Rhode Island*	210,478
<i>B.1</i>	2011 New RECs Purchased	203,373
<i>B.2</i>	Banked 2009 and 2010 New RECs Applied	7,105
С	New RES Obligations (3.5% of "A")	285,531
<i>C.1</i>	Banked RECs Applied to 2011 New Obligations (from B.2)	7,105
<i>C.2</i>	2011 New RECs Applied to 2011 New Obligations (from B.1)	203,373
<i>C.3</i>	Alternative Compliance Payment Credits Applied to 2011 New RES	84,402
	Obligations	
D	Banked RECs Available for Compliance Year 2012 or 2013	
D.1	Remaining RECs Available after Meeting Obligations	9,349
D.2	2011 New RECs applied to 2011 Existing RES Obligations	2
D.3	RECs banked for future use in Compliance Years 2012 or 2013	9,346
D.4	2011 New RECs purchased above 30% banking cap	1
	(not eligible for banking)	

#### **Existing RES Obligations and Existing Renewable Energy Certificates**

Ε	Existing RES Obligations (2.0% of "A")	163,165		
<i>E.1</i>	2011 Existing RECs applied to 2011 Existing RES Obligations	163,160		
<i>E.2</i>	2011 New RECs applied to 2011 Existing RES Obligations	2		
<i>E.3</i>	Alternative Compliance Payment Credits Applied to 2011 Existing RES	3		
	Obligations			
F	<b>Total 2011 Existing RECs Settled in Rhode Island*</b>	292,387		
F.1	2011 Existing RECs applied to 2011 Existing RES Obligations	163,160		
<i>F.2</i>	2011 Existing RECs purchased above 2011 RES Obligations	129,227		
	(not eligible for banking)			
*Does not include RECs purchased on behalf of end-use customers for voluntary clean energy programs. See				
Appendix 6 for details on RECs purchased for voluntary programs.				
Values	may not be additive due to rounding protocol with individual Obligated Entities.			

## III. 2011 RES Compliance by Fuel Type and Geographic Location

In 2011, RES compliance was fulfilled by four types of renewable energy generators – biomass, landfill gas, wind, and hydroelectric. As shown in Figure 3, New RECs purchased by Obligated Entities for the 2011 Compliance Year were primarily generated by landfill gas (55.6%) and biomass (27.3%) facilities throughout New England and the adjacent control area of New York.<sup>16</sup> Compared to 2010, this represents a significant increase in the utilization of RECs generated by landfill gas facilities (31.5% in 2010), but a significant decrease in biomass (45.4% in 2010) RECs used for New RES obligations.

Wind generators produced 12.2 percent of the New RECs retired for Rhode Island obligations, while hydroelectric facilities comprised the remaining 5 percent of New RECs retired in 2011. These were similar to those shares experienced in 2010.



Figure 3: Distribution of Settled 2011 New RES Certificates by Fuel Type

As shown in Figure 4 below, renewable energy facilities located within the Ocean State accounted for just 1.5 percent of the New RECs retired for 2011 obligations, a slight decrease

<sup>&</sup>lt;sup>16</sup> Charts in Section III of this report do not include any RECs purchased by Obligated Entities on behalf of their customers as part of any voluntary clean energy programs. Voluntary RECs are treated in Appendix 6 of this report.

from the 2.0 percent share reported in 2010. These Rhode Island-based generating facilities were fueled by hydro (70.6%) and wind (29.4%). In contrast, nearly 80 percent of all New RECs purchased to meet Rhode Island-based obligations were derived from generating facilities in either New York (48.3%) or New Hampshire (31.2%). Renewable energy certificates imported from New York were primarily derived from landfill gas generators (90.1%), with the residual from wind turbines (9.9%). New Hampshire-based RECs retired in the Ocean State predominantly came from biomass plants (87.4%), along with some landfill gas (7.9%) and wind (4.8%).

New RECs retired for Rhode Island obligations were also generated by facilities in Massachusetts (8.6%), comprised mostly of landfill gas (79.6%). An additional 8.3 percent of retired RECs came from Maine (8.3%), two-thirds of which were from land-based wind turbines, while hydro plants in Vermont generated the remaining 2.2 percent of retired certificates.<sup>17</sup>



Figure 4: Distribution of Settled 2011 New RES Certificates by State and Fuel Type

<sup>&</sup>lt;sup>17</sup> Appendix 5 contains historical data for the distribution of New and Existing RECs by fuel type and location for 2007 through 2010.

As in 2009 and 2010, all of the RECs used to fulfill Existing RES Obligations in 2011 were attributable to hydroelectric generators (see Figure 5). More than two-fifths of these facilities were located in Vermont (43.1%), while Massachusetts-based (24.9%) hydro facilities accounted for one-quarter of Existing RECs retired in Rhode Island for 2011 obligations. Less than one percent of settled Existing RES certificates were derived from hydro facilities located in Rhode Island (0.3%), as shown in Figure 6.

Figure 5: Distribution of Settled 2011 Existing RES Certificates by Fuel Type





Figure 6: Distribution of Settled 2011 Existing RES Certificates by State

### **IV.** Renewable Energy Standard – Future Obligations

The RES enabling legislation at §39-26-4 establishes annual targets for both New and Existing Rhode Island RES Obligations through 2019. At §39-26-4(a)(3), the enabling legislation provides for "An additional one percent (1%) of retail electricity sales in each of the following compliance years 2011, 2012, 2013, 2014, provided that the commission has determined the adequacy, or potential adequacy, of renewable energy supplies to meet these percentage requirements;" and at §39-26-4(a)(4) the legislation provides for an additional 1.5 percent per year through 2019 with the same Commission requirement to determine the adequacy of supply. Finally, at §39-26-4(a)(5) the enabling legislation states that "In 2020 and each year thereafter, the minimum renewable energy standard established in 2019 shall be maintained unless the commission shall determine that such maintenance is no longer necessary for either amortization of investments in new renewable energy resources or for maintaining targets and objectives for renewable energy."

The manner in which the Commission will fulfill the requirement to determine supply adequacy, as well as the timing and implications of the Commission's decision-making authority, is clearly articulated in the RES Regulations under §39-26-6(d). By statute, the Commission was directed to open a docket on or before January 1, 2014 to determine the adequacy or potential adequacy of renewable energy supplies to meet the increase in the RES targets scheduled for 2015. The Commission will make its determination of adequacy based not only on the historic availability of GIS Certificates, historic prices for GIS Certificates, and utilized quantities of ACPs, but also on the future potential availability of GIS Certificates based on the status of projects under development in the region, the magnitude and timing of other states' RPS requirements, cost trends for renewable energy technologies, and the benefits to Rhode Island and the region. \

In a January 2010 order for Docket 4050, the Commission determined that adequate renewable energy supplies existed to meet the RES target increase scheduled for 2011. Additional information on this proceeding and the Commission's complete order can be found at: <a href="http://www.ripuc.org/eventsactions/docket/4050page.html">www.ripuc.org/eventsactions/docket/4050page.html</a>. A similar proceeding will commence in 2013 to address the anticipated RES target increase scheduled to go into effect for 2015, however, the exact date has not been set as of the publication of this report.

The percentage targets shown in Table 4 earlier in this Report, and the calculated future RES obligations in Table 7 below, assume that the Commission determines a continued adequacy of renewable energy supply. The quantity (in MWhs) of future years' RES obligations are estimated by multiplying the forecasted value of total obligated sales in Rhode Island by the RES target for each year. The forecast of Rhode Island's obligated sales is based on ISO-NE's 2012 Capacity, Energy, Loads and Transmission ("CELT") Report<sup>18</sup> and the exemption of both Pascoag Utility District and Block Island Power Company.<sup>19</sup>

<sup>&</sup>lt;sup>18</sup> ISO-NE 2012 CELT Forecast Data: See tab 2, column R – Annual Energy Net Passive Demand Response

<sup>&</sup>lt;sup>19</sup> The exempt load of Block Island and Pascoag is based on <u>www.eia.doe.gov/cneaf/electricity/page/eia861.html</u>.

Compliance Year	Actual/Forecasted RES-Obligated Retail Sales (MWhs)	Minimum MWhs from New Renewable Energy Resources (per Table 4 targets)	MWhs from <i>either</i> New <i>or</i> Existing Renewable Energy Resources (2.0%)	
2007 (Actual)	8,335,706	83,357	166,715	
2008 (Actual)	8,279,006	124,190	165,584	
2009 (Actual)	7,910,112	158,212	158,212	
2010 (Actual)	8,242,937	206,082	164,866	
2011 (Actual)	8,157,796	285,531*	163,165*	
2012	8,369,516	376,629	167,391	
2013	8,290,147	455,959	165,803	
2014	8,307,013	539,956	166,141	
2015**	8,243,517	659,482	164,871	
2016**	8,200,856	779,082	164,018	
2017**	8,158,195	897,402	163,164	
2018**	8,120,495	1,015,062	162,410	
2019**	8,080,810	1,131,314	161,617	
2020**	8,034,180	1,124,785	160,684	
2021 and thereafter**	7,990,527	1,118,674	159,811	
*Please note that the total New and Existing PES obligations are slightly higher than the % New and % Existing of				

Table 7: Forecast of RES MWh, by compliance year, for both new and existing resources

\*Please note that the total New and Existing RES obligations are slightly higher than the % New and % Existing of total obligated retail sales due to rounding protocols for individual Obligated Entities.

\*\* Increases in 2015 subject to Commission determination, as described in Section IV. The 2012 CELT forecasts ends in 2021. Duration of continuation after 2020 is subject to Commission determination.

#### V. Authorized Rate Increases and RES Compliance Costs

The RES enabling legislation specifies that the annual report shall include "the amount of rate increases authorized pursuant to subsection (b,)" where subsection (b) reads that the Commission shall "[a]uthorize rate recovery by electric distribution companies of all prudent incremental costs arising from the implementation of this chapter, including, without limitation, the purchase of NE-GIS certificates, the payment of alternative compliance payments, required payments to support the NE-GIS, assessments made pursuant to §39-26-7(c) and the incremental costs of complying with energy source disclosure requirements." The only electric distribution of "Obligated Entity" in Section 3.25 of the RES Rules and Regulations specifically excludes Block Island Power Company and the Pascoag Utility District.

Table 8 provides data on the authorized RES charge (per kWh) billed to Narragansett Electric's customers between 2007 and 2011, as well as the resulting total estimated billings and average ratepayer impact by month and year. Please note that a rate change was approved during the 2011 calendar year. As of April 1, 2011, the RES charge actually turned into a small bill credit of \$0.00031 per kWh, or roughly fifteen cents per month for the average residential ratepayer (at 500 kWh per month).

Compliance Year	Total RES Load Obligation (MWh)	Auth. RES Charge/kWh	Renewable Energy Charge Billings (est.)	Average Monthly/ Annual Ratepayer Impact (500 kWh)
January 2011 - March 2011	1,363,065	\$0.00123	\$1,676,570	\$0.615 / \$7.38
April 2011 - December 2011	4,191,207	(\$0.00031)	(\$1,299,274)	(\$0.155) / (\$1.86)
2010	5,695,951	\$0.00123 <sup>20</sup>	\$6,720,009	\$0.0615 / \$7.38
2009	5,902,667	\$0.00093	\$5,489,480	\$0.465 / \$5.58
2008	7,733,583	\$0.00084	\$6,496,210	\$0.42 / \$5.04
2007	7,177,539	\$0.00062	\$4,450,074	\$0.31 / \$3.72

Table 8: Authorized Rate and Renewable Energy Charge Billings

It is important to place this data into the context of regulatory ratemaking and reconciliation procedures. This credit, which remained in place until April 1, 2012, does not mean that Narragansett Electric's compliance with the RES mandate *saved* consumers money. Rather, it indicates that the company over-collected revenue during the previous year due to changes in a

<sup>&</sup>lt;sup>20</sup> As of March 1, 2010.

complex set of assumptions designed to project future obligations. These assumptions include projected market conditions, anticipated REC pricing, and estimations of electricity consumption. As these variables change from month to month and the electric distribution utility incurs costs to procure RECs or make Alternative Compliance Payments relative to their realized obligations, the amount of revenue collected must ultimately be reconciled to actual costs. Thus, as of April 1, 2011, Narragansett Electric determined that their compliance costs through the end of 2010 were essentially less than they had originally projected, resulting in a bill credit for 2011 that allowed for the return of those over-collections. As noted below, one contributing factor to this scenario was that 2010 REC prices in the marketplace turned out to be much lower than originally anticipated when the RES rate was estimated and approved for implementation.<sup>21</sup> The reconciling nature of this charge ensures that any over-collections charged to ratepayers are ultimately returned (as occurred in 2011) and that the electric distribution company can recover under-collections when compliance costs are higher than anticipated.

While the rate impact of the RES mandate is important, a more accurate and complete picture of compliance costs can be seen through the lens of REC procurement expenses. In order to meet its 2011 New and Existing RES obligations, the Narragansett Electric Company incurred \$8.43 million in compliance costs, which includes \$4.53 million in Alternative Compliance Payments made to the RI EDC. As indicated in Table 9, this represented a staggering four-fold increase above those costs incurred to comply with 2010 RES targets (\$2.07 million)<sup>22</sup> and a 53 percent increase from 2009 costs (\$5.51 million).

	TOTAL	New	Existing	ACP	Obligated
	RES	REC	REC	Costs	Load
	COSTS	Costs	Costs		(MWh)
2011	\$8.43 million	\$3.85 million	\$0.05 million	\$4.53 million	5,554,272
2010	\$2.07 million	\$2.02 million	\$0.05 million	N/A	5,695,951
2009	\$5.51 million	\$5.28 million	\$0.22 million	N/A	5,902,667
2008	\$5.21 million	\$5.02 million	\$0.19 million	N/A	7,123,559
2007	\$3.97 million	\$3.79 million	\$0.19 million	N/A	7,177,538

Table 9: Narragansett Electric's RES Compliance Costs, 2007-2011

As indicated in Section II of this report, supply shortages for Rhode Island-eligible RECs – particularly in the second half of the 2011 trading period – placed significant upward pressure on prices. Moreover, the state's RES requirements continued to increase by one percentage point per year. Despite the fact that the electric distribution company's total load obligation has

<sup>&</sup>lt;sup>21</sup> For additional information, please see the materials filed in Commission Docket 4226 at: <u>www.ripuc.org/eventsactions/docket/4226page.html</u>. In particular, National Grid's "2011 Renewable Energy Standard Charge and Reconciliation" filing can be viewed at: <u>www.ripuc.org/eventsactions/docket/4226-NGrid-RESFiling(2-28-11).pdf</u>.
<sup>22</sup> At a bick level, the degree of the second discussion of the second discussion of the second discussion.

 $<sup>^{22}</sup>$  At a high level, the decrease in compliance costs between 2009 and 2010 is primarily attributed to a sharp decline in Vintage 2010 REC prices. The low REC prices experienced in 2010 and into the summer months of 2011 was reversed by late-2011, when REC prices roughly doubled. Prices nearly doubled again by the end of 2012.

continued to decrease annually since 2007<sup>23</sup> – albeit slightly in more recent years – the supply and demand pressures throughout the REC market have created a substantial REC imbalance, pushing prices up to the ACP level in 2011 and throughout 2012. It is likely that compliance costs will continue to increase, at least in the near term, as supply shortages persist and annual targets increase. It should be noted that, beginning in 2015, the growth rate in Rhode Island's RES targets increases to one and one-half percentage points per year, which could exasperate these conditions further.

Finally, it should be recognized that the true cost of RES compliance for *all* electric supply customers in Rhode Island is difficult to calculate. While Narragansett Electric accounted for approximately 68 percent of total electric load in the compliance year, sixteen competitive suppliers combined to service the rest. Their costs to procure the required RECs and/or make ACPs are proprietary in nature, but are likely recovered in some fashion through the rates they charge their contracted customers throughout the Ocean State.

<sup>&</sup>lt;sup>23</sup> The reasons behind this decrease in load may include economic recession (particularly in 2009) and the implementation of robust energy efficiency programs throughout Rhode Island.

## VI. Renewable Energy Standard Implementation in New England

The RES enabling legislation requests a report on "*the status of the implementation of the renewable energy standards in Rhode Island <u>and other states</u>" [emphasis added]. This section provides an update on the implementation of similar programs- known as Renewable Portfolio Standards ("RPS") outside of Rhode Island – in the other five New England states.* 

Four of the remaining five New England states have active Renewable Portfolio Standards. While Vermont has legislated renewable energy goals, these goals are voluntary and do not constitute a binding RPS comparable with the rest of New England. As of the end of 2012, each of the four remaining RPS programs has multiple tiers – referred to as classes – used to distinguish compliance requirements associated with new and existing renewables, and sometimes other energy-related objectives, including combined heat and power, energy efficiency, or others. Class I requirements (equivalent to Rhode Island's "New" obligation) focus on supply that has either been constructed after a specified date or supply which meets maximum emissions thresholds, as well as other eligibility criteria. "Existing" requirements<sup>24</sup> generally focus on supply that was in operation prior to the creation of the applicable state's RPS program and compliance targets are generally intended to provide the minimum amount of additional revenue believed to be necessary to keep these existing renewable energy facilities in operation. To this end, RPS requirements for existing resources are intended to maintain the current fleet rather than spur the development of new generating facilities.

Several states have additional requirements outside of the "New" and "Existing" convention. Massachusetts and New Hampshire both have solar-specific RPS requirements. In Massachusetts, the solar obligation is calculated annually and subtracted from the Class I requirement. This is referred to as a solar "carve-out." New Hampshire's solar requirement stands alone and is referred to as a Class II obligation. Connecticut has a Class III requirement for conservation and load management resources, as well as combined heat and power (CHP). In 2011, Connecticut also established incentive programs for zero and low emission distributed energy systems and a residential solar rebate program. While not explicitly within the RPS, these new programs effectively create solar and fuel cell "carve-outs" within the CT RPS. The remainder of this section focuses exclusively on the Class I portion of each state's RPS requirement, including the interaction between Class I and other classes in certain limited circumstances.

<u>Massachusetts</u> has the longest-running RPS; the first compliance year was 2003. Through the use of Early Compliance in 2002 (a one-time opportunity to use all qualifying generation in 2002 toward the 2003 obligation), Massachusetts' RPS supply met demand in 2003. As demand grew more quickly than supply in the RPS market's early years, Massachusetts fell short of RPS compliance by 35 percent in 2004 and 2005, and by 25 percent in 2006. For compliance years 2007 through 2010, the Massachusetts RPS market has been in approximate equilibrium. Since RECs were not evenly distributed among Obligated Entities, however, several suppliers made

<sup>&</sup>lt;sup>24</sup> Including Class II in MA, CT and ME; Class III in NH; Class IV in NH; and "Existing" in RI.

ACPs in years when the market had an overall surplus. Class 1 ACPs in Massachusetts totaled approximately \$9,000 in 2003;<sup>25</sup> \$13.6 million in 2004; \$19.6 million in 2005; \$17.8 million in 2006; \$620,000 in 2007; \$70,000 in 2008, \$0 in 2009, and \$240,000 in 2010. At the time this report was drafted, Massachusetts had not yet released its 2011 compliance report.

In August 2012, the Massachusetts Department of Energy Resources adopted revised Class I regulations, with changes targeting the eligibility requirements for biomass-fueled generation. The revised regulations require both new and existing biomass facilities to meet a new definition of Eligible Biomass Woody Fuel beginning January 1, 2013 in order to receive and maintain a Statement of Qualifications. All projects must also achieve a new minimum Overall Efficiency<sup>26</sup> of 60 percent in order to generate one Massachusetts-eligible REC per MWh. Projects which have an Overall Efficiency of 50 percent are eligible to generate one-half of a REC per MWh. Generators with demonstrated Overall Efficiency between 50 percent and 60 percent will be awarded fractional RECs (above 0.5 per MWh) on a sliding scale. Notwithstanding these new requirements, an Advancement of Biomass Conversion Generation Unit will receive one-half REC per MWh for achieving an Overall Efficiency greater than 40 percent. The efficiency standards apply to new facilities upon commercial operation and apply to existing facilities beginning on January 1, 2016. Eligible biomass units must also achieve a 50 percent reduction in greenhouse gas emissions per unit of useful energy over 20 years, as compared to the operation of a new combined cycle natural gas unit. These new regulations are likely to halt the contribution of existing biomass to Massachusetts RPS compliance and new certifications are expected to be limited to a narrow set of small CHP facilities. Biomass generators accounted for 25 percent of Massachusetts Class I RECs in the 2010 compliance year. If operating facilities are unable to meet these incremental eligibility requirements, the composition of Massachusetts RPS compliance will need to change fairly dramatically in order to maintain the potential for supply and demand balance.

<u>**Connecticut</u>** had its first RPS compliance year in 2004. Due to variations in its RPS eligibility standards compared to the rest of the region, Connecticut has historically had access to a larger pool of eligible supply. As a result, no penalty payments (Connecticut did not formally adopt the term ACP) were required in either the 2004 or 2005 compliance years. In 2006, both investor-owned utilities plus one competitive supplier made penalty payments totaling nearly \$3.5 million to compensate for an overall shortfall of renewable energy supply compared to RPS demand. Thereafter, penalty payments – for Class I only – totaled \$115,335 in 2007; \$60,240 in 2008; and \$46,850 in 2009. The Connecticut Public Utilities Regulatory Authority (formerly known as DPUC) has not yet released a comprehensive RPS compliance report for 2010 or 2011.</u>

In 2012, Connecticut released two major energy plans: the 2012 Integrated Resource Plan ("IRP"), and the 2012 Comprehensive Energy Strategy ("CES"). In the draft IRP, the Department of Energy and Environmental Protection ("DEEP") suggested substantive revisions to the RPS, including potential reductions to Class I targets and potential expansion of eligibility

<sup>&</sup>lt;sup>25</sup> An Early Compliance provision qualifying renewable energy produced in 2002 for the 2003 RPS requirement almost entirely alleviated the need for ACPs.

<sup>&</sup>lt;sup>26</sup> The Overall Efficiency of the Generation Unit each quarter shall be calculated as the total of Renewable Generation plus Useful Thermal Energy plus Merchantable Bio-Products, divided by Biomass Input Heat Content.

to include energy efficiency. In the final IRP, however, no changes to the Class I RPS were recommended. Separate from the IRP process, the state has initiated a comprehensive review of the RPS, which will study the impacts of a range of potential modifications. In Connecticut's Comprehensive Energy Strategy, DEEP again laid out a plan to study the impact of increasing the Class I RPS target and simultaneously allowing large hydropower to qualify as a Class I Resource. The potential for qualifying large scale hydropower as a Class I RPS resource is an ongoing discussion in Connecticut. If the state does choose to allow large hydro resources to qualify, it could dramatically change the profile of RPS compliance unless limitations are also applied.

In addition to releasing the state's energy plans, Connecticut regulators continued to implement sections of Public Act No.11-80 (2011) throughout 2012. The bill created a number of incentive programs for distributed renewable energy resources, most notably for residential solar (30 MW), RPS-eligible low-emissions resources (up to \$20M/yr phasing in over several years and sun-setting by 2030), and zero-emission resources (up to \$48M/yr, also phasing in over several years and sun-setting by 2030). In September, Connecticut Light and Power and United Illuminating selected 104 projects for long-term, low-emission and zero-emission Renewable Energy Credit (LREC and ZREC) contracts, totaling approximately 24.75 MW.

<u>Maine's</u> first compliance year for its Class 1 RPS<sup>27</sup> requirement was 2008. While there was eligible supply sufficient to meet the one percent requirement, an uneven distribution of REC ownership led to the payment of \$693,103 in ACPs. ACP payments decreased to \$319,233 in 2009 and remained constant at \$319,252 for the 2010 compliance year.

In their 2012 legislative session, Maine's Governor proposed a bill to remove the current 100 MW capacity cap on qualifying RPS Class I resources, with the intention of allowing large hydro to satisfy the state's RPS. This bill met resistance in both the House and Senate, and was eventually abandoned due to lack of consensus. Governor LePage is expected to propose similar measures to allow large hydro as a Class I resource again in the 2013 legislative session. Maine has also had several applications from biomass plants seeking to qualify as Class I RPS resources under the refurbishment and resumed operations provisions of the Vintage section of their existing regulations. Certification of these facilities would likely relieve Maine of the need to build new generation in order to satisfy near-term annual increases in Class 1 RPS targets.

The first compliance year for <u>New Hampshire</u> Class I was 2009. It was reported that no ACPs were made for Class I RPS compliance due to market surplus. In 2010, \$26,321 in ACPs were made, reflecting a similar trend as Massachusetts, in which modest shortage conditions returned to the market. In 2011, the New Hampshire Public Utilities Commission received a record \$19.1 million in ACPs. However, these payments primarily resulted from a chronic shortage in the state's Class III market (which targets existing biomass facilities).

<sup>&</sup>lt;sup>27</sup> Maine has had an "Existing" RPS requirement since 2000. An abundance of qualifying in-state supply has enabled the state to easily satisfy this requirement each year.

In June 2012, the New Hampshire legislature passed Senate Bill 218, which altered several aspects of the state's RPS. The bill reduced the Class I target from 16 percent to 15 percent by 2015 and established a Useful Thermal Energy carve out of the Class I requirement – equivalent to 0.2 percent of total electric load in 2013. This requirement will increase annually until it reaches a 2.6 percent carve out from Class 1 by 2025. The bill also modifies the ACP for all four classes, changing the annual Class I escalation factor to one-half of the Consumer Price Index ("CPI") each year. These changes decouple the New Hampshire Class I ACP from Massachusetts, Rhode Island, and Maine. If regional market conditions return to shortage conditions, New Hampshire is now more likely to receive ACPs than compliance through the purchase and retirement of RECs.

In May 2012, the <u>Vermont</u> legislature passed Senate Bill 214, expanding the Sustainably Priced Energy Enterprise Development ("SPEED") program. The SPEED program includes voluntary goals for 2012 and 2020, as well as a Standard Offer contracts program to provide long-term price certainty and guaranteed interconnection to small<sup>28</sup> renewable energy projects.<sup>29</sup> The bill was originally drafted to include a binding RPS, but was later rewritten to maintain the current program. The bill expands the Standard Offer program from 50 MW to 127.5 MW, with the incremental 77.5 MW phased-in over ten years. Until a binding RPS is implemented, Vermont utilities will be allowed to sell the renewable energy credits associated with their electricity purchases to Obligated Entities in other New England states.

Table 10 provides a summary of renewable energy standard annual percentage targets throughout New England, while Table 11 provides an estimate of the corresponding GWh RPS demand through 2019. The forecasted RPS obligations are based upon ISO-NE's forecast of "Annual Energy Net of Passive Demand Response," found in the May 2012 CELT Report<sup>30</sup> and adjusted to exclude any public or other utility exempted from a state's RPS. For example, both Pascoag Utility District and Block Island Power Company have been removed from the forecast of Rhode Island REC demand.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019
MA Class I	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%
CT Class I	8.0%	9.0%	10.0%	11.0%	12.5%	14.0%	15.5%	17.0%	18.5%
RI-New	3.5%	4.5%	5.5%	6.5%	8.0%	9.5%	11.0%	12.5%	14.0%
ME Class I	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	10.0%	10.0%
NH Class I <sup>31</sup>	2.0%	3.0%	3.8%	4.6%	5.4%	6.2%	7.0%	7.8%	8.6%

Table 10: Summary of New England States' New Renewable RPS Targets (%)

<sup>&</sup>lt;sup>28</sup> The VT Sustainably Priced Energy Enterprise Development (SPEED) Program is open to projects less than or equal to 2.2 MW.

<sup>&</sup>lt;sup>29</sup> Retirement of GIS Certificates is not required to meet the Vermont goals.

<sup>&</sup>lt;sup>30</sup> The ISO-NE 2012 CELT Report is available at: www.iso-ne.com/trans/celt/report/2012/2012\_celt\_report.xls

<sup>&</sup>lt;sup>31</sup> Beginning in 2013, 0.2 percent of the annual NH Class 1 incremental demand must come from qualifying renewable producing useful thermal energy. As a result, the renewable electricity obligation is reduced. The net RPS requirement for electric power is shown here.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019
MA Class I	2,808	3,368	3,839	4,324	4,795	5,268	5,740	6,212	6,686
CT Class I	2,314	2,681	2,980	3,293	3,754	4,218	4,680	5,141	5,604
RI New	286	377	456	540	659	779	897	1,015	1,131
ME Class I	417	540	637	740	851	963	1,073	1,076	1,079
NH Class I	228	352	450	552	654	758	861	965	1,070
Total	6,052	7,318	8,362	9,449	10,713	11,986	13,251	14,409	15,570

Table 11: Projection of New England States' New Renewable RPS Demand (GWh)

As can be seen in Figure 7 below, Massachusetts and Connecticut represent the majority of New England's RPS demand through 2019. In 2011, these two states accounted for 46 percent and 38 percent of demand, respectively. Rhode Island represented 5 percent of the region's 2011 New Renewable RES demand, as shown in Figure 8, which is up from 4 percent in 2009. By 2015, the allocation of New Renewable RES demand across the region is projected as follows: Massachusetts – 44 percent; Connecticut – 35 percent; Maine – 8 percent; New Hampshire – 7 percent; and Rhode Island – 6 percent, as shown in Figure 9.







Figure 8: 2011 Composition of Aggregate RES Demand in New England

Figure 9: Projection of 2015 Composition of Aggregate RES Demand in New England



#### VII. Conclusion

Based upon the Commission's analysis of regulated utility data and general market trends, a shortage of New Rhode Island-eligible RECs clearly existed in the 2011 compliance year, leading to higher REC prices and increased use of the Alternative Compliance Payment mechanism. This shortage comes after three years (2008 through 2010) when nearly all New and Existing RES Obligations were met through the retirement of NEPOOL GIS Certificates. As a result, Obligated Entities paid more than \$5.24 million to the Rhode Island Economic Development Corporation in Alternative Compliance Payments to satisfy 84,405 MWh of compliance costs incurred by the state's distribution company and competitive suppliers are at an all-time high. For example, Narragansett Electric's RES compliance costs rose to more than \$8.4 million – four times that incurred to meet 2010 targets and a 53 percent increase above 2009 levels. These costs will ultimately be passed on to Ocean State ratepayers, either through regulated rates (i.e. Narragansett Electric) or through the prices offered to consumers by competitive suppliers. Moreover, RES compliance costs will continue to increase – at least in the short-term – as REC supply shortages persist and annual mandates increase.

Despite the rising costs associated with achieving compliance with the Renewable Energy Standard, the Standard itself is being successfully implemented and each of Rhode Island's Obligated Entities met their 2011 obligations, either through the retirement of RECs and/or the payment of ACPs. The increased utilization of ACPs is consistent with identified supply constraints and these dollars should be utilized by the RI EDC to spur new renewable development throughout the Ocean State. Over time, this should help create new supply sources for RECs and help ease market tensions.

The number of facilities and the amount of potential generation certified under the Rhode Island RES also continues to increase. Since January 1, 2011, the Commission has approved or conditionally approved 18 renewable energy facilities for state RES certification – 13 New, 3 Existing, and 2 units with split eligibility (comprised of both New and Existing generation). These generators combined for 431.536 MW of additional certified nameplate capacity. Facility certifications in 2012 (12 in total) out-paced those of 2011 (6 in total), although these annual additions were less than experienced in 2009 (26 facilities certified) and 2010 (14 facilities certified). Overall, as of December 31, 2012, there were 104 qualified renewable energy resource facilities approved or conditionally approved under the Rhode Island RES, accounting for more than 1,021 MW of renewable energy nameplate capacity. These trends should continue as new policy initiatives supporting the renewable energy industry take hold, and local and regional economic conditions improve. The Commission will continue to examine and report on these trends in future compliance reports.

The success of the state's Renewable Energy Standard and growth in the number of qualified renewable energy facilities since 2007 leaves the Commission cautiously optimistic that the RES and similar programs throughout New England will continue to spur renewable energy development. It is important to note, however, that the continued availability of long-term contracts and access to renewable energy financing are important to sustaining regional RPS

success. Based on recent policies established and revised within the Ocean State, including longterm contracting statutes and the Distributed Generation Standard Contracts law, Rhode Island remains a leader in this critical area of policy support. Elsewhere in New England, a shortage of long-term contracting appetite compared to the pipeline of renewable energy supply necessary to meet RES targets may affect New England's collective ability to meet established renewable energy standards in the mid- and long-term. Recent legislation to expand the long-term contracting obligation of Massachusetts utilities, as well as the November 2012 release of NESCOE's<sup>32</sup> Coordinated Competitive Renewable Power Procurement Work Plan, suggests that the states understand the opportunity this market dynamic presents and are prepared to follow through with increased long-term contracting with renewable energy facilities.

While the Commission regards the 2011 RES Compliance Year a success, it also notes the rising costs associated with fulfilling this and other renewable energy mandates, and remains concerned about their impact on Rhode Island's ratepayers. In the coming year, the Commission will continue to monitor the regional renewable energy marketplace and the state's ability to achieve its established targets in a just and reasonable manner.

<sup>&</sup>lt;sup>32</sup> NESCOE is the Regional State Committee on Electricity for the New England region, governed by a board of managers appointed by the Governors of the six New England states funded through a regional tariff administered by the ISO New England. NESCOE's mission is to represent the interests of the citizens of the New England region by advancing policies that will provide electricity at the lowest reasonable cost over the long term, consistent with maintaining reliable service and environmental quality. In response to the Governors, NESCOE and the states are working toward issuing a coordinated, multi-state RFP for renewable energy by the end of 2013. Additional information on this effort can be found at: <a href="http://www.nescoe.com/Coordinated\_Procurement.html">www.nescoe.com/Coordinated\_Procurement.html</a>.

## **Appendix 1: Certified New Renewable Energy Resources**

The following page lists generating units that have been *approved* by the Rhode Island Public Utilities Commission, either in whole or in part, as New Renewable Energy Resources (as of December 31, 2012). To view the most current RES applications status report, please visit: <a href="https://www.ripuc.org/utilityinfo/res.html">www.ripuc.org/utilityinfo/res.html</a>.

Unit Name	Location: City, State	Fuel Type	Nameplate	% of output	Year
			Capacity	approved as	Approved
			(MW)	New	
The following generators are located within	ISO-NE:				-
Johnston Landfill Expansion Phase 1	Johnston, RI	LFG	2.4	100%	2007
Johnston Landfill Expansion Phase 2	Johnston, RI	LFG	6	100%	2007
Pawtucket Hydropower	Pawtucket, RI	Hydro	1.35	47%	2007
Portsmouth Abbey Wind Rurbine	Portsmouth, RI	Wind	0.67	100%	2007
North Hartland Hydroelectric Project	Hartland, VT	Hydro	4.664	25.60%	2007
Schiller Station Unit 5	Portsmouth, NH	Biomass	50	100%	2007
Pioneer Hydro Electric Co., Inc.	Ware, MA	Hydro	1.6	50.40%	2007
Coventry Landfill Units 1 - 3	Coventry, VT	LFG	4.8	100%	2008
Coventry Landfill Unit 4 & 5	Coventry, VT	LFG	3.2	100%	2008
Attleboro Energy - QF	Attleboro, MA	LFG	1.5	100%	2008
Pepperell Hydro	East Pepperell, MA	Hydro	1.92	53.20%	2008
Woronoco Hydro	Russell, MA	Hydro	2.7	37.40%	2008
Quarry Energy Project	Quincy, MA	LFG	0.6	100%	2008
UNH Power Plant	Durham, NH	LFG	4.6	100%	2009
Portsmouth Wind	Portsmouth, RI	Wind	1.5	100%	2009
Lempster Wind	Lempster, NH	Wind	24	100%	2009
Pine Tree Landfill	Hampden,ME	LFG	3.17	100%	2009
Fitchburg Landfill	Westminster, MA	LFG	4.8	100%	2009
Crossroads	Norridgewock,ME	LFG	3.2	100%	2009
Thundermist Hydopower	Woonsocket, RI	Hydro	1.1	25.90%	2009
Seaman Energy LLC	Gardner, MA	LFG	1.62	100%	2010
Bay Center	Providence, RI	Solar	0.02	100%	2010
Rhode Island LFG Genco*	Johnston, RI	LFG	33.4	100%	2010
Stetson Wind Farm	Stetson Mountain, ME	Wind	57	100%	2011
Stetson II Wind Farm	Stetson Mountain, ME	Wind	25.5	100%	2011
Toray Solar #1	North Kingstown, RI	Solar	0.405	100%	2011
Sheffield Wind Plant	Sheffield, VT	Wind	40	100%	2012
Putts Bridge Project	Ludlow, MA	Hydro	3.9	19.19%	2012
Red Bridge Project	Wilbraham, MA	Hydro	4.5	20.06%	2012
Berkshire Wind Power	Lanesborough, MA	Wind	15	100%	2012
Record Hill Wind	Roxbury, ME	Wind	50.6	100%	2012
Granite Reliable Wind Project	Coos County, NH	Wind	99	100%	2012
Sandywoods Farm 275kW Vergnet Turbine	Tiverton, RI	Wind	0.275	100%	2012
Orono B Hydroelectric Project*	Orono, ME	Hydro	3.75	100%	2012
Exeter Agri-Energy	Exeter, ME	Biomass	0.98	100%	2012
Ipswich Wind I	Ipswich, MA	Wind	1.6	100%	2012

The following generators are located in	control areas adjacent to IS	SO-NE:			
Higley Hydro	Colton, NY	Hydro	6.2	100%	2006
Colonie	Cohoes, NY	LFG	4.8	100%	2007
Model City	Youngstown, NY	LFG	5.6	100%	2007
Modern	Youngstown, NY	LFG	6.4	100%	2007
DANC	Rodman, NY	LFG	4.8	100%	2007
Mill Seat Landfill	Bergen, NY	LFG	6.4	100%	2008
Chaffee Landfill	Chaffee, NY	LFG	4.8	100%	2008
Hyland Landfill	Angelica, NY	LFG	4.8	100%	2008
Clinton Landfill	Morrisonville, NY	LFG	4.8	100%	2008
High Acres I	Fairport, NY	LFG	3.2	35.80%	2009
High Acres II	Fairport, NY	LFG	6.4	100%	2009
Madison County	Canastota, NY	LFG	1.6	100%	2009
Cohocton & Dutch Hill Wind Farm	Cohocton, NY	Wind	125	100%	2011
Synergy Biogas, LLC	Wyoming, NY	Biomass	1.426	100%	2012
* Conditionally approved.					
Shading indicates newly approved facility s	since last compliance report				

## **Appendix 2: Certified Existing Renewable Energy Resources**

The following page lists generating units that have been *approved* by the Rhode Island Public Utilities Commission, either in whole or in part, as Existing Renewable Energy Resources (as of December 31, 2012). To view the most current RES status report, please visit: <a href="https://www.ripuc.org/utilityinfo/res.html">www.ripuc.org/utilityinfo/res.html</a>.

Unit Name	Location: City, State	Fuel Type	Nameplate	% of output	Year
			Capacity (MW)	approved as	Approved
				Existing	
	The following generator	rs are located wit	hin ISO-NE:		
Hosiery Mills	Hillsboro, NH	Hydro	1.2	100%	2007
Kelley's Falls	Manchester, NH	Hydro	0.45	100%	2007
Mascoma	West Lebanon, NH	Hydro	1.5	100%	2007
Salmon Falls	South Berwick, ME	Hydro	1.2	100%	2007
Pontook Hydro	Dummer, NH	Hydro	10.8	100%	2007
Fife Brook	Florida, MA	Hydro	10	100%	2007
Pawtucket Hydropower	Pawtucket, RI	Hydro	1.35	53.0%	2007
North Hartland Hydro	Hartland, VT	Hydro	4.664	74.4%	2007
Blackstone Hydro Associates	Central Falls, RI	Hydro	0.818	100%	2007
McIndoes Station	McIndoe Falls, VT	Hydro	10.63	100%	2007
Lower Deerfield Stations	Conway, Shelburne Falls, Buckland, MA	Hydro	19.5	100%	2007
Deerfield Unit 5	Florida, MA	Hydro	13.99	100%	2007
Sherman Station	Rowe, MA	Hydro	6.237	100%	2007
Searsburg Station	Wilmington, VT	Hydro	4.96	100%	2007
Pioneer Hydro Electric Co., Inc.	Ware, MA	Hydro	1.6	49.6%	2007
Wells River	Boltonville, VT	Hydro	1.318	100%	2007
Penacook Upper Falls	Boscawen, NH	Hydro	3.67	100%	2007
Dodge Falls	Bath, NH	Hydro	5.76	100%	2007
Nashua Hydro Associates	Nashua, NH	Hydro	1.1	100%	2007
Briar Hydro Assoc - Rolfe Canal	Penacook, NH	Hydro	5.58	100%	2007
Penacook Lower Falls	Boscawen, NH	Hydro	4.69	100%	2007
Benton Falls Associates	Benton, ME	Hydro	4.468	100%	2007
Springfield Power	Springfield, NH	Biomass	16	100%	2008
Lower Lamoille Composite Hydro	Milton, VT	Hydro	16.85	100%	2008
Middlebury Composite Hydro	Leicester, VT	Hydro	6.4	100%	2008
North Rutland Composite Hydro	Rutland, VT	Hydro	5.6	100%	2008
Putnam Hydro	Putnam, CT	Hydro	0.575	100%	2008
Pepperell Hydro	East Pepperell, MA	Hydro	1.92	46.8%	2008
Woronoco Hydro	Russell, MA	Hydro	2.7	62.6%	2008
Williams Project	Solon, ME	Hydro	14.8	100%	2009
Monty Project	Lewiston, ME	Hydro	27	100%	2009
Lirom Project	Saco, ME Boldwin ME	Hydro	0.05	100%	2009
North Corborn Project	Corborn ME	Hydro	2.25	100%	2009
Shaumut Project	Showmut ME	Hydro	2.23	100%	2009
Skelton Project	Dayton ME	Hydro	16.8	100%	2009
Weston Project	Skowhegan ME	Hydro	13.4	100%	2009
Brunswick Project	Brunswick ME	Hydro	19	100%	2009
Bar Mills Project	Hollis, ME	Hydro	4	100%	2009
Bonny Eagle Project	Hollis, ME	Hydro	7.2	100%	2009
West Buxton Project	Buxton, ME	Hydro	7.9	100%	2009
Deer Rips Project	Auburn, ME	Hydro	7	100%	2009
Gulf Island Project	Lewiston, ME	Hydro	23.4	100%	2009
Androscoggin Project	Lewiston, ME	Hydro	3.6	100%	2009
Thundermist Hydropower	Woonsocket, RI	Hydro	1.1	74.1%	2009
Boatlock	Holyoke, MA	Hydro	2.9	100%	2010
Beebe Holbrook	Holyoke, MA	Hydro	0.516	100%	2010
Chemical	Holyoke, MA	Hydro	1.6	100%	2010
Riverside 4-7	Holyoke, MA	Hydro	3.04	100%	2010
Riverside 8	Holyoke, MA	Hydro	4	100%	2010
Skinner	Holyoke, MA	Hydro	0.3	100%	2010
Valley Hydro	Holyoke, MA	Hydro	0.79	100%	2010
Harris Energy	Holyoke, MA	Hydro	2.421	100%	2010
HG&E Hydro/Cabot 1-4	Holyoke, MA	Hydro	3.056	100%	2010
Aziscohos Project	Lincoln Plantation, ME	Hydro	7.5	100%	2010
Hydro Keenebec Project	Waterville, ME	Hydro	15.4	100%	2010
Brassua Project	Rockwood, ME	Hydro	4.2	100%	2010
Crescent	Russell, MA	Hydro	1.5	100%	2011
Glendale	Stockbridge, MA	Hydro	0.7	100%	2011
Bath Electric Hydro	Bath, NH	Hydro	0.4	100%	2012
Putts Bridge Project	Ludlow, MA	Hydro	3.9	80.81%	2012
Red Bridge Project	Wilbraham, MA	Hydro	4.5	79.94%	2012
The fo	ollowing generators are locat	ed in control are	as adjacent to IS	U-NE:	
High Acres I	Fairport, NY	LFG	3.2	64.2%	2009
Shading indicates newly approved f	acility since last compliance re	port			

#### **Appendix 3: Alternative Compliance Payments**

Section 7.3 of the Rules permits Obligated Entities to meet the RES either through the purchase and retirement of NEPOOL GIS Certificates or through the provision of Alternative Compliance Payments ("ACPs"), obtained by making payment to the Rhode Island Economic Development Corporation ("RI EDC"). The RI EDC sets these funds aside in the Renewable Energy Development Fund to support renewable energy development. The ACP rate is the same for both New and Existing obligations.

Section 3.2 of the Rules states that ACPs must be made at a rate of \$50 per MWh of renewable energy obligation, in 2003 dollars, adjusted annually by the annual change in the United States Bureau of Labor Statistics' Consumer Price Index. Additionally, Section 7.9 of the Rules states that the Commission will publish the ACP rate by January 31 of each Compliance Year. For the 2011 Compliance Year, the ACP rate was \$62.13 per MWh of obligation.

Compliance Year	ACP Rate
2007	\$57.12
2008	\$58.58
2009	\$60.92
2010	\$60.93
2011	\$62.13
2012	\$64.02

Connecticut, Maine, Massachusetts, and New Hampshire all have similar ACP mechanisms – although New Hampshire passed legislation in 2012 to adjust the 2013 ACP downward to \$55.00 with subsequent escalations of only one-half of the Consumer Price Index thereafter. The Table below shows the 2011 ACP rates used by other New England states for the various class RECs defined in each state.

2011 ACP Rates	СТ	ME	MA	NH
Class I	\$55	\$62.13	\$62.13	\$62.13
Class II	\$55	N/A	\$25.50	\$163.16
Class III	\$31	N/A	N/A	\$30.46
Class IV	N/A	N/A	N/A	\$30.46

	Retail Sales (from filing)	RES Obligat	ions (MWh)		NEPOC	DL GIS Certifi	cates		Alternative ( Paym	Compliance ents	Banked RECs for Future Compliance
Obligated Entity Name	Load (MWh)	3.5% "New" Obligation	2.0% "Existing" Obligation	New RECs	Banked from 2009 or 2010	Total New RECs	Existing RECs	New Applied to Existing	"New" (MWh)	"Existing" (MWh)	RECs Eligible for 2012 or 2013
Distribution Companies											
Narragansett Electric Company - Standard Offer	5,554,272	194,400	111,086	119,358	2,168	121,526	111,089	0	72,874	0	0
Competitive Suppliers											
Constellation New Energy, Inc											
Devonshire Energy											
Direct Energy Business, LLC											
Direct Energy Services, LLC (Energy America LLC)											
First Point Power, LLC											
NextEra Energy Services Rhode Island, LLC (Gexa											
Energy LLC)											
Glacial Energy of New England, Inc.											
Hess Corporation											
South Jersey Energy Company (Halifax American											
Operating Co. and Emera Energy)											
Liberty Power Holdings LLC											
Mint Energy, LLC											
Integrys Energy Services, Inc.											
SJH Energy LLC (St. Joseph Health Services)											
Noble Americas Energy Solutions LLC (Senpra											
Energy Solutions LLC)											
TransCanada Power Marketing, LLC											
Westerly Hospital Energy Company LLC											
Competitive Supplier Subtotal	2,603,524	91,131	52,079	84,015	4,937	88,952	181,298	2	11,528	3	9,346
TOTAL	8,157,796	285,531	163,165	203,373	7,105	210,478	292,387	2	84,402	3	9,346

## Appendix 4: Rhode Island RES 2011 Compliance Summary<sup>33</sup>

<sup>33</sup> Please note that data for individual competitive suppliers is confidential and not subject to public release.

#### **Appendix 5: Historical Breakdown of Compliance Sources**



The charts below provide additional detail on the breakdown of New and Existing RECs purchased by Obligated Entities for the period 2007-2011.

In 2011, there was a significantly lower reliance on biomass generation than in the past four years due to curtailed operations at facilities across New England. There was a significant increase in the percentage of New RES obligations met with landfill gas-generated RECs. The share of New RES Certificates from wind resources applied to Rhode Island obligations decreased from 18.5 percent in 2010 to 12.2 percent in 2011. However, this percentage still represents a substantial increase from pre-2010 levels.



Historic Utilization of Alternative Compliance Payments (ACPs)

	2	007	20	08	20	09	20	)10	2	2011
	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$
New	3,653	203,519	295	17,281	1	61	192	11,699	84,402	5,243,896
Existing	227	12,966	77	4,511	1	61	166	10,114	3	186
Total	3,790	216,485	372	21,792	2	122	358	21,813	84,405	5,244,083





There were 901 Existing RES Certificates from Rhode Island-based hydro facilities applied to 2011 obligations; 905 in 2010; 1,964 in 2009; 0 in 2008; and 156 in 2007. There have been no New York-based Existing RECs utilized for compliance since 2007.



#### **Appendix 6: Voluntary Clean Energy Programs**

As a competitive retail electricity market, Rhode Island provides load serving entities with the opportunity to offer customized electric supply options to both their existing and prospective retail customers. One example of such an offer is for the voluntary purchase of renewable energy resources above and beyond the state's minimum RES requirements. Collectively, the offers of such products are known as voluntary<sup>34</sup> clean energy programs or as the voluntary green power market. Narragansett Electric's "GreenUp" program is just one example.

For the 2011 Compliance Year, Narragansett Electric and one competitive supplier reported the purchase of RECs on behalf of end-use customers as part of voluntary clean energy programs. The table below provides a summary of the quantities of voluntary REC purchases made on behalf of customers.

	New RECs	2008	2009	2010	2011
A	Total New RECs settled in Rhode Island on behalf of end-use customers for voluntary clean energy programs	5,350	7,480	6,642	3,750
A.1	New Voluntary RECs – Narragansett Electric	5,161	6,833	4,366	1,474
A.2	New Voluntary RECs – All Competitive Suppliers	189	647	2,276	2,276

#### History of Voluntary REC Purchases on Behalf of RI Customers

	Existing RECs	2008	2009	2010	2011
В	Existing RECs settled in Rhode Island on behalf of end-use customers for voluntary clean energy programs	7,624	2,603	0	0
B.1	Existing Voluntary RECs – Narragansett Electric	7,624	2,603	0	0
B.2	Existing Voluntary RECs – Competitive Suppliers	0	0	0	0

The NEPOOL GIS Certificate, or REC, is the currency used to demonstrate compliance not only with the mandatory RES, but also with voluntary renewable energy transactions. Through the use of GIS Certificates, which are created and transferred exclusively within the NEPOOL GIS,

<sup>&</sup>lt;sup>34</sup> By comparison, the RES is referred to as the "mandatory" or "compliance" renewable energy market.

and the annual submission of RES compliance reports, the Commission ensures that a NEPOOL GIS Certificate used for RES compliance has not also been used to satisfy another obligation in Rhode Island or any other jurisdiction. For example, National Grid hosts voluntary renewable energy programs in both Rhode Island and Massachusetts. The use of NEPOOL GIS Certificates and the annual review of RES Compliance Reports ensure that each MWh of renewable energy production is used to meet only one obligation. This prohibition on double-counting is codified at Section 7.10(iii)(e) of the Rhode Island RES Regulations, which states:

Assurances satisfactory to the Commission that the New or Existing Renewable NEPOOL GIS Certificates have not otherwise been, nor will be, sold, retired, claimed or represented as part of electrical energy output or sales, or used to satisfy obligations in jurisdictions other than Rhode Island.

While voluntary markets represent only a small fraction of NEPOOL GIS Certificates, it is nonetheless important to the integrity of both programs that all certificates are tracked and settled appropriately.