



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

**Rhode Island**  
**Renewable Energy Standard**  
**Annual RES Compliance Report**  
**For Compliance Year 2009**

**February 2011**

**Rhode Island Public Utilities Commission**

89 Jefferson Boulevard

Warwick, Rhode Island 02888

## Table of Contents

Table of Contents .....	ii
Executive Summary .....	1
I. Introduction to the Renewable Energy Standard .....	4
II. Compliance Year 2009: Obligation and Sources of Compliance .....	6
III. 2009 RES Compliance by Fuel Type and Geographic Location .....	11
IV. Renewable Energy Standard – Future Obligations .....	15
V. Authorized Rate Increases .....	17
VI. Status of Implementation of Renewable Energy Standards in Other States .....	18
VII. Conclusion .....	24
Appendix 1: Certified New Renewable Energy Resources .....	25
Appendix 2: Certified Existing Renewable Energy Resources.....	27
Appendix 3: Alternative Compliance Payments .....	29
Appendix 4: Rhode Island Renewable Energy Standard 2009 Compliance Summary .....	30
Appendix 5: Historical Breakdown of Compliance Sources .....	31
Appendix 6: Voluntary Clean Energy Programs .....	34
<i>Table 1: Composition of 2009 RES Compliance .....</i>	<i>2</i>
<i>Table 2: Estimated Rate Impact for 2009 RES Compliance .....</i>	<i>2</i>
<i>Table 3: RES targets, by compliance year, for both new and existing resources .....</i>	<i>4</i>
<i>Table 4: Obligated Entities submitting 2009 RES Compliance Filings to the Commission .....</i>	<i>6</i>
<i>Table 5: Summary of 2009 RES Compliance.....</i>	<i>10</i>
<i>Table 6: Forecast of RES MWh, by compliance year, for both new and existing resources .....</i>	<i>16</i>
<i>Table 7: Authorized Rate and Renewable Energy Charge Billings, Compliance Year 2009 .....</i>	<i>17</i>
<i>Table 8: Summary of New England States’ New Renewable RPS Targets (%).....</i>	<i>20</i>
<i>Table 9: Projection of New England States’ New Renewable RPS Demand (GWh).....</i>	<i>20</i>
<i>Figure 1: 2009 Compliance with the New Renewable Energy Standard Requirement .....</i>	<i>8</i>
<i>Figure 2: 2009 Compliance with the Existing Renewable Energy Standard Requirement .....</i>	<i>9</i>
<i>Figure 3: Distribution of Settled 2009 New RECs by Renewable Fuel Type .....</i>	<i>11</i>
<i>Figure 4: Distribution of Settled 2009 New RECs by Geographic Location and Facility Type.....</i>	<i>12</i>
<i>Figure 5: Distribution of Settled 2009 Existing RECs by Renewable Fuel Type .....</i>	<i>13</i>
<i>Figure 6: Distribution of Settled 2009 Existing RECs by Geographic Location.....</i>	<i>14</i>
<i>Figure 7: Projection of New England States’ New Renewable Energy Standard Demand.....</i>	<i>21</i>
<i>Figure 8: Composition of 2009 New Renewable Energy Standard Demand in New England.....</i>	<i>22</i>
<i>Figure 9: Projected Composition of 2015 New Renewable Energy Standard Demand in New England ..</i>	<i>23</i>

## Executive Summary

Compliance Year 2009 (from January 1, 2009 through December 31, 2009) was the third 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 2009, each Obligated Entity<sup>1</sup> was required to obtain at least four percent (4%) of electricity (including line losses) sold to Rhode Island end-use customers from Eligible Renewable Energy Resources, with no less than two percent (2%) from New Renewable Energy Resources. This third Annual RES Compliance Report is intended to satisfy the legislative requirement at §39-26-6 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 2009 RES-obligated retail sales totaled 7,910,112 MWh. As shown in Table 1, the total minimum obligation to be satisfied by New Renewable Energy Resources was 158,212 MWh (2.0% of obligated retail sales). The obligation to be satisfied either by Existing or any remaining New Renewable Energy Resources was also 158,212 MWh (2.0% of obligated retail sales). The New England Power Pool’s Generation Information System (“GIS”) Certificates<sup>2</sup> from Rhode Island eligible “New” renewable energy supply totaled 181,117 MWh (including 5,602 Certificates banked from 2008), representing a 14.5 percent surplus compared to the minimum New RES obligation. Similarly, GIS Certificates from Rhode Island eligible “Existing” renewable energy supply totaled 263,998 MWh. This equated to a 66.9 percent surplus above the Existing RES 2009 obligation. Just 2 MWh of “New” and “Existing” obligation was met through Alternative Compliance Payments. The composition of 2009 RES compliance, both by technology and by generators’ geographic location, is discussed in Section III of this report.

---

<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: nonregulated 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 as described in § 39-26-7 or Pascoag Utility District.

<sup>2</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.

**Table 1: Composition of 2009 RES Compliance**

	<b>New RES Obligation</b>	<b>Existing RES Obligation</b>
2009 Minimum Obligations <sup>3</sup>	158,212 Certificates	158,212 Certificates
GIS Certificates Applied to 2009 RI RES Compliance (MWh, %)	158,211 (99.99%) <sup>4</sup>	158,211 (99.99%) <sup>5</sup>
RI RES Compliance by Alternative Compliance Payments (MWh, %, \$)	1 MWh (0.0006%) \$60.92	1 (MWh) (0.0006%) \$60.92
Banked for Future Compliance	16,290 MWh	Not Applicable

Compliance with the 2009 RES targets by the electric distribution company resulted in total ratepayer billings of approximately \$5.5 million, as shown in Table 2. For the average household using 500 kWh per month, this equated to an estimated monthly bill impact of \$0.465, and an estimated annual impact of \$5.58. Section V provides additional rate impact data.

**Table 2: Estimated Rate Impact for 2009 RES Compliance**

<b>Compliance Year</b>	<b>Total RES Load Obligation (MWh)</b>	<b>Authorized RES Charge per kWh</b>	<b>Renewable Energy Charge Billings (est.)<sup>6</sup></b>	<b>Average Monthly/Annual Ratepayer Impact (500 kWh)</b>
2009	5,902,667	\$0.00093	\$5,489,480	\$0.465 / \$5.58

Fourteen load-serving entities had Rhode Island RES obligations for compliance year 2009.<sup>7</sup> Thirteen of these fourteen entities – Narragansett Electric and twelve competitive retail electric providers – met 100 percent of their RES obligations with GIS Certificates. Only one entity met their individual RES obligations through the provision of Alternative Compliance Credits, obtained by making Alternative Compliance Payments (“ACPs”) to the Rhode Island Economic Development Corporation (“RIEDC”).

With respect to the minimum New RES Obligation, 99.99 percent of compliance was realized through the retirement of GIS Certificates, while only one ACP was made to achieve compliance. The relative use of GIS Certificates and ACPs has changed dramatically since 2007, when competitive retail electric providers relied on ACPs to meet approximately thirty percent (30%) of their collective New RES Obligation. The 2007 Annual RES Compliance Report noted that, due to the market’s lack of experience with implementing the RES

<sup>3</sup> Please note that the total New and Existing RES obligations are slightly higher than the 2.0% New and 2.0% Existing of total obligated retail sales due to rounding protocols for individual Obligated Entities.

<sup>4</sup> In aggregate, Obligated Entities over-complied with the New RES Obligation, demonstrating the purchase of 159,225 GIS Certificates from New Renewable Energy Resources (not including the 16,290 New GIS Certificates banked for future use).

<sup>5</sup> In aggregate, Obligated Entities over-complied with the Existing RES Obligation, demonstrating the purchase of 263,998 GIS Certificates from Existing Renewable Energy Resources. Additionally, of the total 158,211 Certificates applied to the “New or Existing Renewable Energy Resources” obligation, 3,597 were GIS Certificates from New Renewable Energy Resources.

<sup>6</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’s customers represent 75% of the total deliverables in Rhode Island.

<sup>7</sup> See Table 4 for a complete list of load-serving entities.

regulations, this result was neither unexpected, nor uncommon when compared to the first compliance year of other similar programs throughout the region. In 2008, competitive retail electric providers relied on ACPs for meeting just 1.7 percent of their collective New RES Obligation. This sharply downward trend in the use of ACPs for REC compliance has continued into the 2009 compliance year, with only one \$60.92 payment made to the RIEDC for 2009 New RES compliance and one \$60.92 payment made for Existing RES compliance (\$121.84 total). These figures reflect current market conditions not only in Rhode Island, but also throughout New England, where renewable energy supply has caught up with demand. When looking to the future, the maintenance of such supply and demand balance will depend on a multitude of factors, including state and regional policy, economics, and project development.

Eight of the fourteen Obligated Entities, including Narragansett Electric, utilized some of their authorized Banked Compliance RECs in 2009. Together they applied 5,602 Certificates, which had been banked in either 2007 or 2008, towards their respective 2009 obligations. In addition, the market's current surplus enabled Narragansett Electric (8,161 MWhs) and ten competitive suppliers (8,129 MWhs) to bank a combined 16,290 MWhs of New RES compliance for use against their New RES Obligation in either the 2010 or 2011 Compliance Years. This is a significant increase compared to the 30 MWhs of New RES compliance banked in 2007 and 5,582 MWhs of New RES compliance banked in 2008.

Overall, the Commission's review and analysis reveal continued success in the RES program's third compliance year. The growing number of new renewable energy projects proposed throughout the region and adjacent control areas leaves the Commission optimistic that the Rhode Island RES will continue to encourage renewable energy development and allow the program to meet its legislative mandates in the short term. RPS programs in other New England states are also making great strides toward achieving their own renewable energy standard targets. However, the continued long-term success of each of these programs is beholden to a wide range of variables that have the potential to hinder development of new supplies of renewable energy necessary to meet RES targets later this decade. For example, in Docket 4050,<sup>8</sup> the Commission heard evidence that there is the potential for a tightening of renewable energy supply beyond 2011. Of particular concern is how the nation's latest recession and continued economic stagnation has impacted new project development throughout the region. While this warrants our attention, the Commission has found that there is an adequate supply of renewable energy to meet our targets through 2011.

---

<sup>8</sup> For additional information on the adequacy of renewable energy supply, you may review the docket materials and Commission findings at: [www.ripuc.org/eventsactions/docket/4050page.html](http://www.ripuc.org/eventsactions/docket/4050page.html).

## 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 the standard is no longer necessary.

As shown in Table 3, the RES required all Obligated Entities to obtain at least 4.0 percent of electricity sold to Rhode Island end-use customers (inclusive of losses) from Eligible Renewable Energy Resources for the 2009 Compliance Year (January to December 2009). No more than 2.0 percent may be from Existing Renewable Energy Resources and a minimum of 2.0 percent must be from New Renewable Energy Resources. Table 3 provides the target percentages for each category by year.

**Table 3: RES targets, by compliance year, for both new and existing resources**

<b>Compliance Year</b>	<b>Total Target Percentage</b>	<b>Minimum Percentage from New Renewable Energy Resources</b>	<b>Percentage from <i>either Existing or New Renewable Energy Resources</i></b>
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%

\* Under §39-26-6(d), the Commission must determine by January 1, 2010 and 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 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 [www.ripuc.org/utilityinfo/res.html](http://www.ripuc.org/utilityinfo/res.html).

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 – including generator location, fuel type and actual emissions. One GIS Certificate<sup>9</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 both 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>9</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 2009: Obligation and Sources of Compliance

Compliance Year 2009 (from January 1, 2009 through December 31, 2009) was the third compliance year for Rhode Island’s RES. Each Obligated Entity was required to obtain at least 4.0 percent of electricity (including line losses) sold to Rhode Island end-use customers from Eligible Renewable Energy Resources, with no less than 2.0 percent from New Renewable Energy Resources.

Rhode Island’s actual 2009 RES-obligated retail sales totaled 7,910,112 MWh. As a result, the aggregate minimum New RES Obligation (2.0%) was 158,212 MWh, while the aggregate New or Existing RES Obligation (2.0%) was also 158,212 MWh.<sup>10</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 (“RIEDC”). The RIEDC sets these funds aside in the Renewable Energy Development Fund, established under §39-26-7, to support investments in renewable energy. In 2009, the ACP rate was \$60.92 per MWh of obligation. The rate is the same for both New and Existing obligations. See Appendix 3 for more information about Alternative Compliance Payments.

In total, fourteen entities submitted RES Compliance Filings to the Commission for 2009 consisting of Narragansett Electric and thirteen competitive electricity providers. Table 4 provides a list of all 2009 Obligated Entities.

**Table 4: Obligated Entities submitting 2009 RES Compliance Filings to the Commission**

<b>Distribution Utilities</b>	
The Narragansett Electric Company d/b/a National Grid	
<b>Competitive Retail Providers</b>	
Constellation New Energy, Inc.	Liberty Power Holdings, LLC
Devonshire Energy, LLC	Sempra Energy Solutions, LLC
Direct Energy Services, LLC	SJH Energy LLC
Gexa Energy Rhode Island, LLC	South Jersey Energy Company d/b/a Halifax American Operating Company
Glacial Energy of New England, Inc.	TransCanada Power Marketing Ltd.
Hess Corporation	Westerly Hospital Energy Company LLC
Integrays Energy Services, Inc.	

Thirteen of these entities – Narragansett Electric and twelve competitive retail electric providers – met their entire RES obligations with GIS Certificates. Only one entity met its RES obligation through the provision of ACPs. Appendix 4 lists all entities from whom Compliance Filings

<sup>10</sup> Please note that the total New and Existing RES obligations are slightly higher than the 2.0% New and 2.0% Existing of total obligated retail sales due to rounding protocols for individual Obligated Entities.



were received and provides a detailed summary of RES compliance for Narragansett Electric Company along with a more limited summary for competitive retail electric providers.<sup>11</sup>

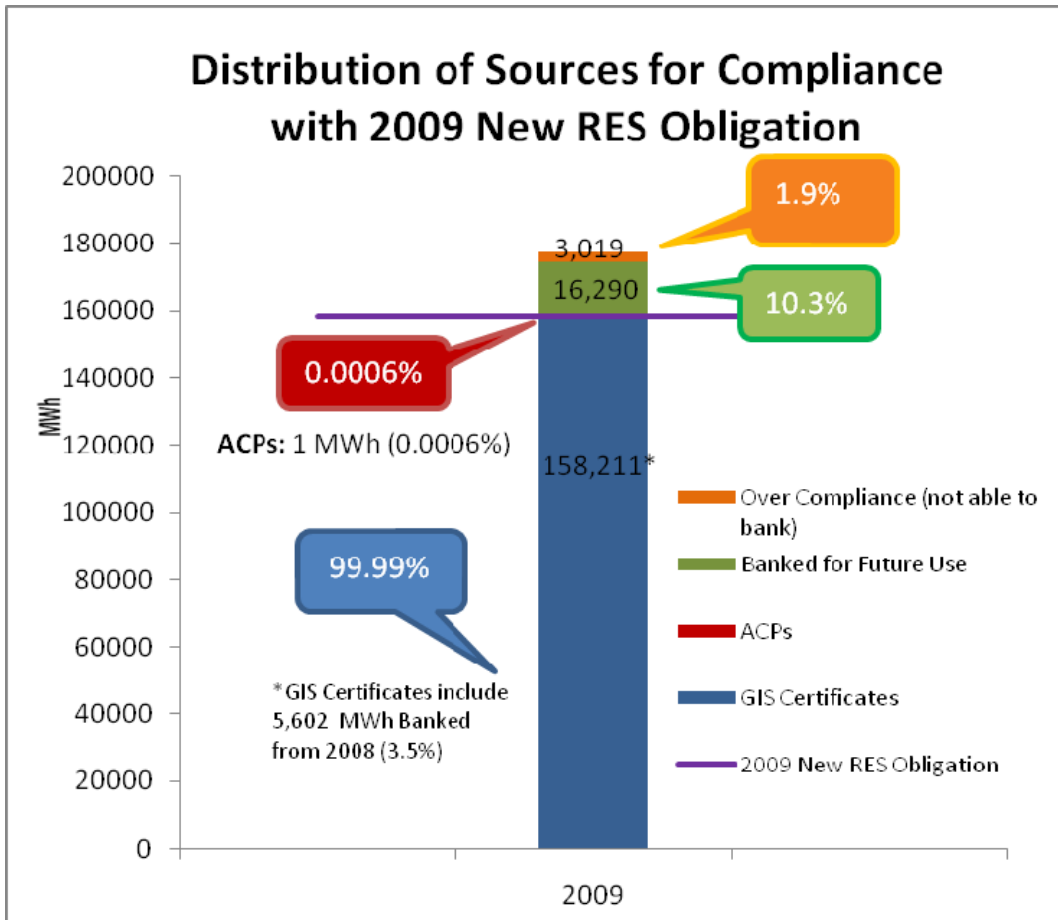
As shown in Figure 1, nearly 100 percent (99.99%) of compliance with the New RES Obligation was realized through the retirement of GIS Certificates. The remaining fraction of compliance was met by one ACP, resulting in a payment of \$60.92 to the RIEDC.

The relative use of GIS Certificates and ACPs has changed dramatically since 2007, when competitive retail electric providers relied on ACPs to meet approximately thirty percent (30%) of their collective New RES Obligation. The 2007 Annual RES Compliance Report noted that, due to the market's lack of experience with implementing the RES regulations, this result was neither unexpected, nor uncommon when compared to the first compliance year of other similar programs throughout the region. In 2008, competitive retail electric providers relied on ACPs for meeting just 1.7 percent of their collective New RES Obligation. This sharply downward trend in the use of ACPs for REC compliance has continued into the 2009 compliance year, with only one \$60.92 payment made to the RIEDC for 2009 New RES compliance and one \$60.92 payment made for Existing RES compliance, totaling \$121.84. These figures reflect current market conditions not only in Rhode Island, but also in New England, where renewable energy supply has caught up with demand.

---

<sup>11</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.

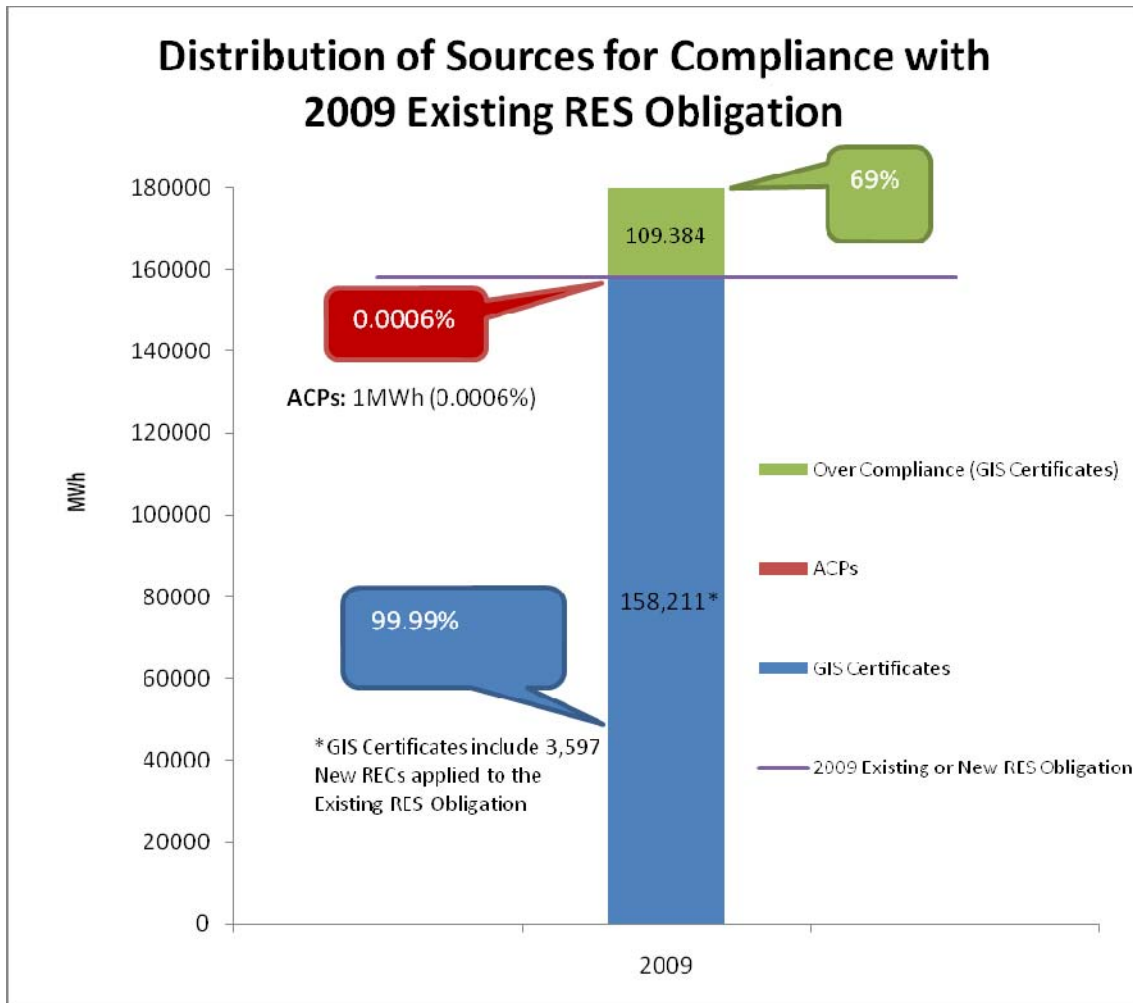
**Figure 1: 2009 Compliance with the New Renewable Energy Standard Requirement**



Similarly, for the Existing RES Obligation, nearly 100 percent of compliance was realized through the retirement of GIS Certificates. One entity submitted an ACP for 1 MWh of Existing RES obligation. This ACP comprised just 0.0006 percent of the state’s total aggregated obligation, as shown in Figure 2. Also, as shown in this figure, compliance filings demonstrated that a surplus of nearly 109,400 GIS certificates was obtained from Existing resources in 2009, resulting in significant over-compliance.<sup>12</sup>

<sup>12</sup> Obligated entities settled a total of 109,384 Existing RECs above their 2009 RES Obligations, and 3,019 New RECs above the 30% cap eligible for banking. It is possible that these companies inadvertently over-purchased RECs anticipating higher sales, or that they purchased them intentionally to promote a “green” image, corporate responsibility, etc.

**Figure 2: 2009 Compliance with the Existing Renewable Energy Standard Requirement**



Eight of the fourteen Obligated Entities, including Narragansett Electric, made use of the Banked Compliance flexibility mechanism in 2009. Together, they applied 5,602 Certificates banked in either 2007 or 2008 towards their respective 2009 obligations. In addition, Narragansett Electric (8,161 MWhs) and ten competitive suppliers (8,129 MWhs) banked a combined 16,290 MWhs of New RES compliance for use against their New RES Obligation in either the 2010 or 2011 Compliance Years. This is a significant increase when compared to the 30 MWhs of New RES compliance banked in 2007 and 5,582 MWhs New RES compliance banked in 2008.

Two competitive suppliers purchased even more (3,019) New RECs than the Rules permit to be banked for future use, capped at 30 percent of the current year’s New RES obligation. It is important to note that only compliance with the New RES Obligation may be banked. A summary of 2009 RES Compliance, including banked certificates for 2010 or 2011, is presented below in Table 5.

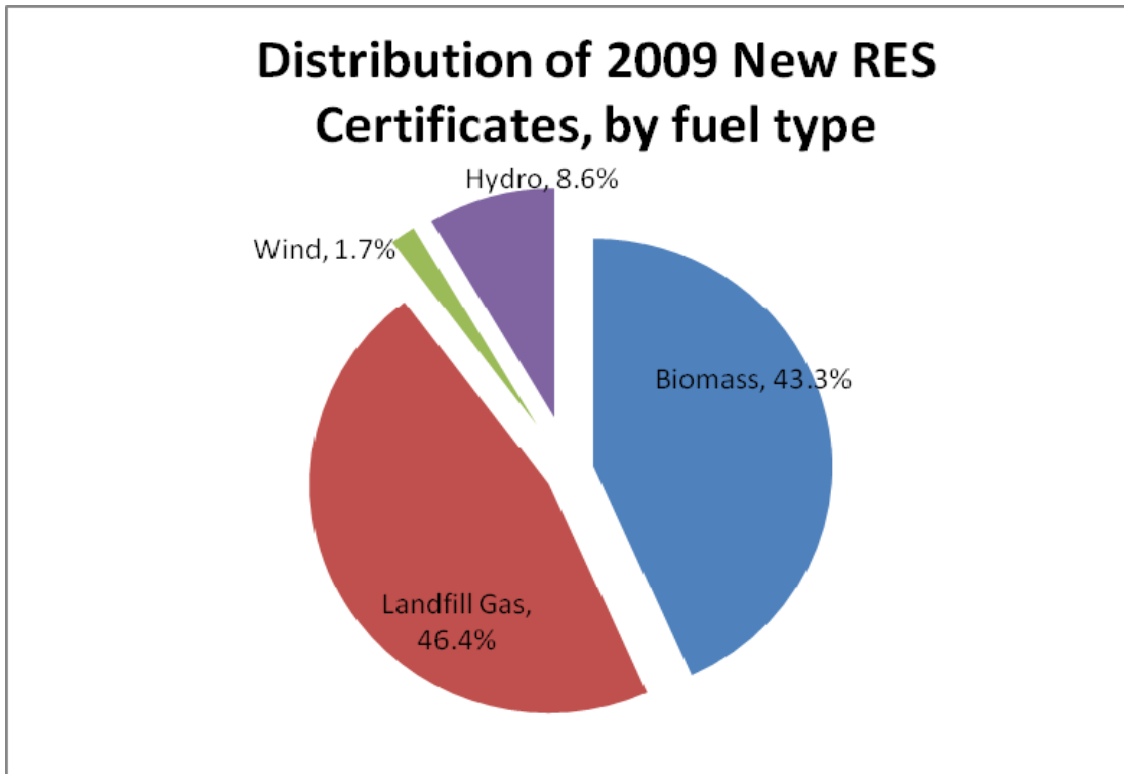
**Table 5: Summary of 2009 RES Compliance**

	<b>Results for 2009 Compliance Year</b>	<b>(MWh)</b>
<b>A</b>	<b>2009 RES-Obligated Retail Sales</b>	<b>7,910,112</b>
A.1	<i>Narragansett Electric</i>	5,902,667
A.2	<i>Competitive Suppliers (13 in total)</i>	2,007,445
<b>New RES Obligation and New Renewable Energy Certificates</b>		
<b>B</b>	<b>New RES Obligation (2.0% of “A”)</b>	<b>158,212</b>
B.1	<i>2009 New RECs applied to 2009 New RES Obligation</i>	152,609
B.2	<i>Banked 2007 and 2008 New RECs applied to 2009 New RES Obligation</i>	5,602
B.3	<i>Alternative Compliance Payment Credits Applied to 2009 New RES Obligation</i>	1
<b>C</b>	<b>Total 2009 New RECs Settled in Rhode Island*</b>	<b>175,515</b>
C.1	<i>2009 New RECs applied to 2009 New RES Obligation</i>	152,609
C.2	<i>2009 New RECs applied to 2009 Existing RES Obligation</i>	3,597
C.3	<i>2009 New RECs banked for use in Compliance Years 2010 or 2011</i>	16,290
C.4	<i>2009 New RECs purchased above 30% banking cap (not eligible for banking)</i>	3,019
<b>Existing RES Obligation and Existing Renewable Energy Certificates</b>		
<b>D</b>	<b>Existing RES Obligation (2.0% of “A”)</b>	<b>158,212</b>
D.1	<i>2009 Existing RECs applied to 2009 Existing RES Obligation</i>	154,614
D.2	<i>2009 New RECs applied to 2009 Existing RES Obligation</i>	3,597
D.3	<i>Alternative Compliance Payment Credits Applied to 2009 Existing RES Obligation</i>	1
<b>E</b>	<b>Total 2009 Existing RECs Settled in Rhode Island*</b>	<b>263,998</b>
E.1	<i>2009 Existing RECs applied to 2009 Existing RES Obligation</i>	154,614
E.2	<i>2009 Existing RECs purchased above 2009 RES Obligation (not eligible for banking)</i>	109,384
<p><i>*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.</i></p> <p><i>Note- Some totals may not sum due to rounding</i></p>		

### III. 2009 RES Compliance by Fuel Type and Geographic Location

In 2009, RES compliance was fulfilled by four types of renewable energy generators – biomass (wood-fired), landfill gas, wind, and hydroelectric. As shown in Figure 3,<sup>13</sup> the 2009 New RECs purchased by Obligated Entities were comprised almost entirely by biomass (43.3%) and landfill gas (46.4%) facilities from New England and the adjacent control area of New York. A small fraction of GIS Certificates came from hydroelectric (8.6%) and wind (1.7%) facilities.

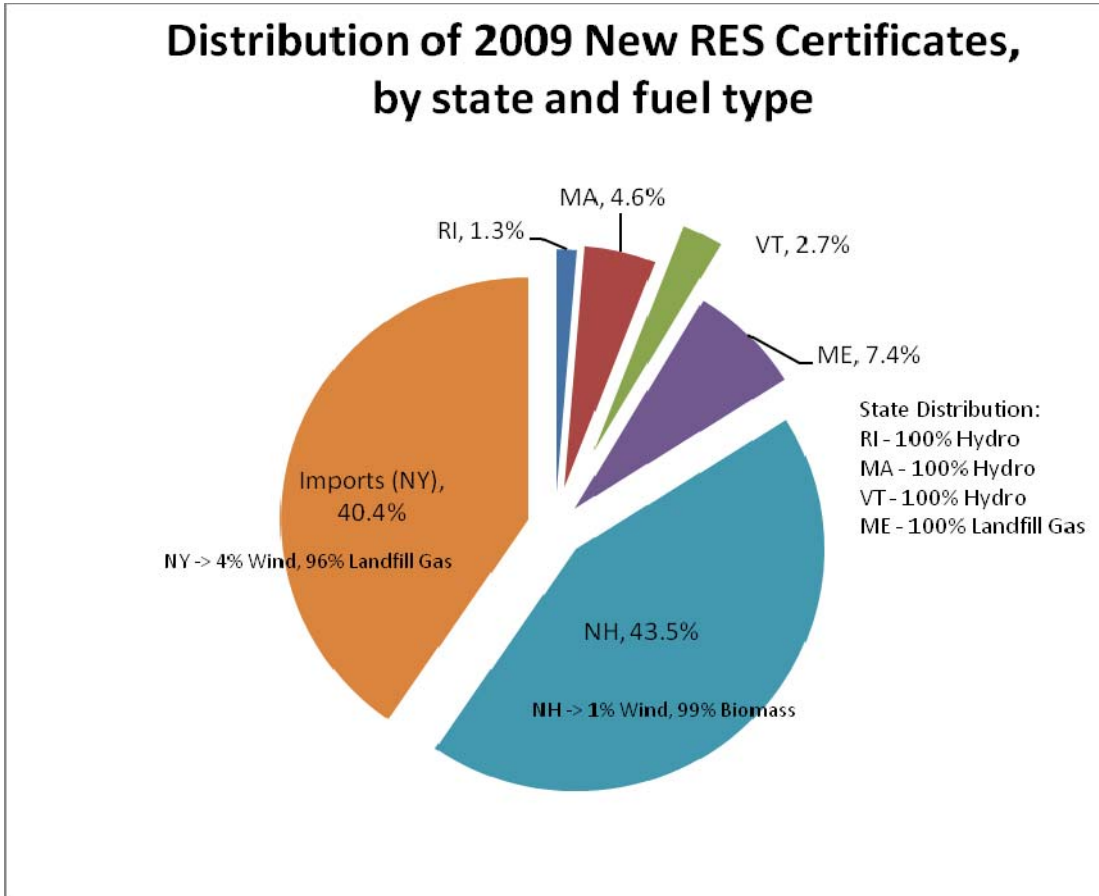
*Figure 3: Distribution of Settled 2009 New RECs by Renewable Fuel Type*



As shown in Figure 4, in 2009, more than 80 percent of all RECs purchased by Obligated Entities to meet Rhode Island’s “New” RES compliance requirements were attributable to generating facilities located in either New Hampshire (43.5%) or New York (40.4%). New RECs were also derived from facilities located in Maine (7.4%), Massachusetts (4.6%), and Vermont (2.7%). Renewable energy facilities located within the Ocean State accounted for 1.3 percent of the New RECs required for compliance in 2009.

<sup>13</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.

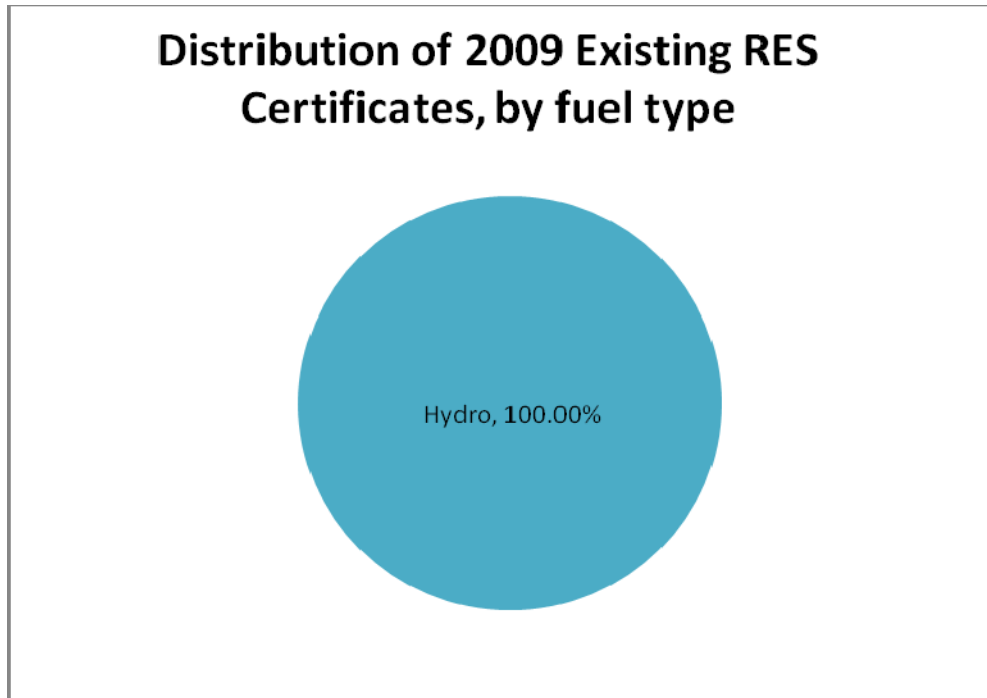
**Figure 4: Distribution of Settled 2009 New RECs by Geographic Location and Facility Type**



As shown in Figure 4, settled RECs derived from facilities in Rhode Island, Massachusetts, and Vermont, and retired to meet Rhode Island’s “New” 2009 RES compliance requirements, all came from hydroelectric renewable energy generators. In contrast, the New RECs derived from facilities in Maine, New Hampshire and New York were primarily generated by biomass and landfill gas generators (100% landfill gas, 99% biomass, and 96% landfill gas, respectively).

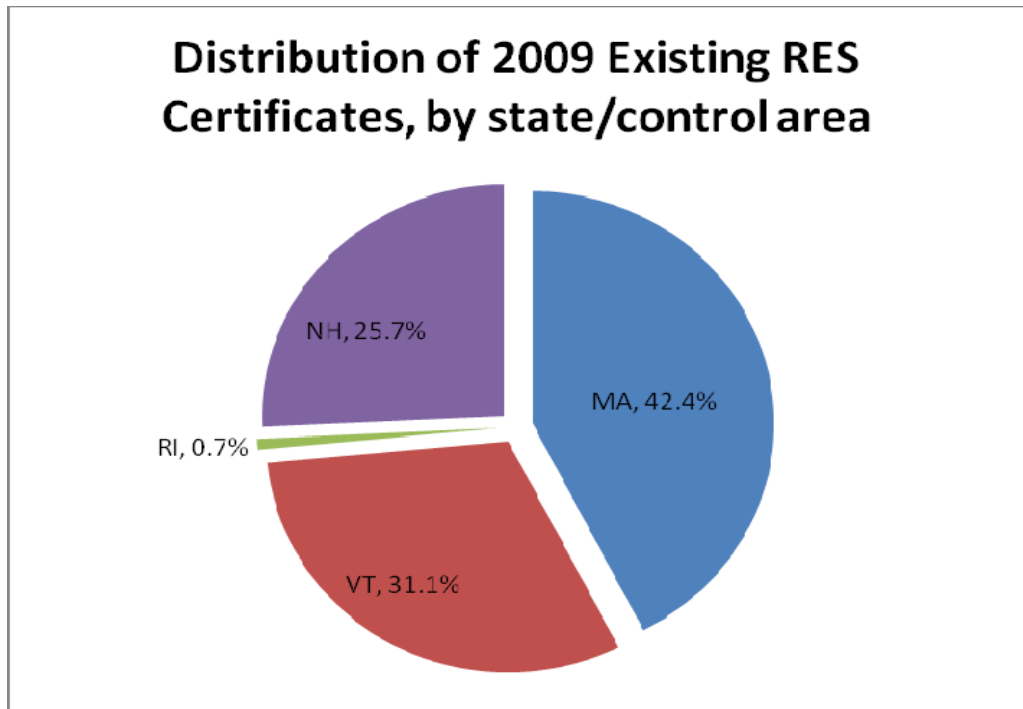
For the 2009 compliance year, all RECs used to fulfill the Existing RES Obligation were attributable to hydroelectric generators, as shown in Figure 5.

*Figure 5: Distribution of Settled 2009 Existing RECs by Renewable Fuel Type*



These hydro facilities were primarily located in Massachusetts (42.4%), Vermont (31.1%), and New Hampshire (25.7%). Less than one percent (0.7%) of Existing RES certificates were derived from hydro facilities located in Rhode Island, as shown below.

*Figure 6: Distribution of Settled 2009 Existing RECs by Geographic Location*



Appendix 5 contains historical data for the distribution of New and Existing RECs purchased by fuel type and location for 2007, 2008, and 2009.



## 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 is directed to open a docket on or before January 1, 2010 and 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 2011 and 2015, respectively. 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.

The Commission determined in Docket 4050 that adequate renewable energy supplies exist to meet the RES target increase scheduled for 2011. A similar process will be conducted in 2013 or 2014 for the 2015 compliance year. Additional information on this proceeding, including witness testimony and the Commission’s complete order, can be found at: [www.ripuc.org/eventsactions/docket/4050page.html](http://www.ripuc.org/eventsactions/docket/4050page.html).

The percentage targets shown in Table 3 earlier in this Report, and the calculated future RES obligations in Table 6 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 2010 CELT Report<sup>14</sup> and the exemption of both Pascoag Utility District and Block Island Power Company.<sup>15</sup> Actual 2007, 2008 and 2009 retail sales and RES obligation are provided in italics.

---

<sup>14</sup> ISO-NE 2010 CELT Report: See tab 2, column R – Annual Energy Net Passive Demand Response

<sup>15</sup> The exempt load of Block Island and Pascoag is based on <http://www.eia.doe.gov/cneaf/electricity/page/eia861.html>

**Table 6: Forecast of RES MWh, by compliance year, for both new and existing resources**

<b>Compliance Year</b>	<b>Actual/Forecasted RES-Obligated Retail Sales (MWhs)</b>	<b>Minimum MWhs from New Renewable Energy Resources (per Table 1 targets)</b>	<b>MWhs from either New or Existing Renewable Energy Resources (2%)</b>
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 <sup>a</sup>	158,212 <sup>a</sup>
2010	8,084,000	199,917	159,933
2011*	8,062,000	279,122	159,498
2012*	8,034,000	357,625	158,944
2013*	8,009,000	435,737	158,450
2014*	8,079,000	519,462	159,835
2015*	8,139,000	644,086	161,022
2016*	8,203,000	770,867	162,288
2017*	8,269,000	899,764	163,593
2018*	8,344,000	1,031,733	165,077
2019*	8,414,000	1,165,235	166,462
2020 and thereafter**	8,484,000	1,174,955	167,851

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

\* Increases in 2011 and 2015 subject to Commission determination, as described in Section IV.

\*\* The 2010 CELT forecasts ends in 2019. 2020 value above is based on the compound annual growth rate for the prior five years. Duration of continuation after 2020 is subject to Commission determination.

## V. Authorized Rate Increases

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.” This section provides an update on authorized rates and their impact in the 2009 Compliance Year.

The Commission approved a Renewable Energy Charge of \$0.00093 per kWh, with an effective date of January 1, 2009. As shown in the chart below, this rate equated to an estimated monthly increase of \$0.465 for a typical residential ratepayer consuming 500 kWh per month, or \$5.58 annually. The only electric distribution company that qualifies as an Obligated Entity is Narragansett Electric, as the definition of “Obligated Entity” in Section 3.25 of the RES Rules and Regulations specifically excludes Block Island Power Company and the Pascoag Utility District. Overall, the total estimated 2009 Renewable Energy Charge billings by Narragansett Electric to its customers was approximately \$5.5 million.<sup>16</sup> This is calculated by multiplying Narragansett’s total electric deliveries of 5.9 billion kWh by the Renewable Energy Charge of \$0.00093 per kWh, providing an approximate cost of compliance. It is important to note that any over-collections for RES compliance by the electric distribution company are refunded to ratepayers through a Commission-approved reconciliation mechanism.

**Table 7: Authorized Rate and Renewable Energy Charge Billings, Compliance Year 2009**

Compliance Year	Total RES Load Obligation (MWh)	Auth. RES Charge/kWh	Renewable Energy Charge Billings (est.)	Average Monthly/Annual Ratepayer Impact (500 kWh)
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

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 75 percent of total electric load in the compliance year, thirteen 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>16</sup> Narragansett’s load obligation represents approximately 75% of the total retail electrical energy sold to end-use customers in Rhode Island.

## VI. Status of Implementation of Renewable Energy Standards in Other States

The RES enabling legislation also requests a report on “*the status of the implementation of the renewable energy standards in Rhode Island and other states*” [emphasis added]. This section provides a status update on the implementation of similar programs, known as Renewable Portfolio Standards (“RPS”) outside of Rhode Island, in other New England state jurisdictions. Five of the six New England states have active Renewable Portfolio Standards. As of 2010, each of the five active RPS states has multiple tiers – referred to as classes – within its RPS requirement. 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>17</sup> generally focus on supply that was in operation prior to the creation of the applicable state’s RPS program, and are 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. Connecticut has a Class III requirement for conservation and load management resources, as well as combined heat and power (CHP) resources. 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 Class II. The remainder of this section focuses exclusively on the Class I portion of each state’s RPS requirement.

Massachusetts has the longest-running RPS; the first compliance year was 2003. In aggregate, Massachusetts’ RPS supply exceeded its RPS demand in 2003; fell short of demand in each of 2004 through 2006; and then once again exceeded RPS demand in the 2007 Compliance Year (which, like Rhode Island, is January to December). Since compliance is not evenly distributed, however, several suppliers made ACPs in years when the market had an overall surplus. ACPs in Massachusetts totaled approximately \$9,000 in 2003;<sup>18</sup> \$13.6 million in 2004; \$19.6 million in 2005; \$17.8 million in 2006; \$620,000 in 2007; \$70,000 in 2008; and \$0 in 2009. Through this trend, Massachusetts demonstrates what the region has experienced as a whole – RPS supply has generally caught up to current RPS demand throughout New England. However, new legislative and regulatory proposals designed to alter the Massachusetts RPS program may threaten to disrupt this balance. In late 2010, major changes were proposed regarding the eligibility of biomass-fired power plants for the RPS program. If adopted, the changes would require both new *and existing*<sup>19</sup> biomass facilities to meet a new definition of “Eligible Biomass Woody

---

<sup>17</sup> Including Class II in MA, CT and ME; Class III in NH; Class IV in NH; and “Existing” in RI.

<sup>18</sup> An Early Compliance provision qualifying renewable energy produced in 2002 for the 2003 RPS requirement almost entirely alleviated the need for ACPs.

<sup>19</sup> Sustainable harvesting standards would apply to new facilities immediately, and to existing facilities beginning in 2013.

Fuel”<sup>20</sup> in order to receive and maintain a Statement of Qualifications to participate in the Massachusetts RPS program. An additional proposed eligibility criterion would require 60 percent “Overall Efficiency”<sup>21</sup> in order to generate one Massachusetts-eligible REC<sup>22</sup> per MWh. Facilities realizing 40 percent overall efficiency would receive 0.5 Massachusetts RECs per MWh, while generators with demonstrated overall efficiency between 40 percent and 60 percent will be awarded fractional RECs (above 0.5 per MWh) on a sliding scale. Facilities operating at less than 40 percent overall efficiency will not generate Massachusetts-eligible RECs. These proposed efficiency standards would apply to new facilities upon commercial operation and would also apply to *existing facilities* beginning in 2015. Biomass generators accounted for 27 percent of Massachusetts Class I RECs in the 2009 compliance year. If operating facilities are unable to meet these incremental eligibility requirements over time, then the composition of Massachusetts RPS compliance will need to change fairly dramatically in order to maintain its current supply and demand balance.

Connecticut 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. In 2007, obligated entities made penalty payments totaling \$347,145 – of which \$115,335 represented alternative compliance for Class 1. In 2008, obligated entities made cumulative penalty payments of \$113,730 – of which \$60,240 were for non-compliance with Class 1. The Connecticut DPUC has not released a comprehensive RPS compliance report for 2009. Like Massachusetts, Connecticut contemplated significant changes to its RPS program in 2010. The General Assembly crafted and passed legislation that would have cut the state’s RPS targets nearly in half (from 20% to 11.5% in 2020), but the bill was vetoed by former Governor Rell. The legislature has already reintroduced a similar bill in the 2011 session. In parallel, the Connecticut Energy Advisory Board has announced that it will conduct a study to examine the continued implementation of, and potential modifications to, the Connecticut RPS program.

Maine and New Hampshire also have RPS legislation and regulations in place. Maine’s first compliance year for its Class 1 RPS<sup>23</sup> requirement was 2008. While there was eligible supply sufficient to meet the 1 percent requirement, an uneven distribution of REC ownership led to the payment of \$693,103 in ACPs. The first compliance year for New Hampshire Class I was 2009, and it is reported that \$0 of ACPs were made for Class I RPS compliance, and there was a surplus of RECs on the market.

---

<sup>20</sup> Eligible Biomass Woody Fuel refers to “fuel sources that are derived from economic or ecological improvement activities limited to” certain forest derived residues, forest salvage, non-forest derived residues and dedicated energy crops. Each of these four categories of fuel are further defined in 225 CMR 14.02.

<sup>21</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.

<sup>22</sup> Here the terms REC (Renewable Energy Credit) and GIS Certificate are used interchangeably.

<sup>23</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.

While Vermont does not yet have a binding renewable energy requirement, the state legislature has directed the Public Service Board to study the issue in 2011. The Vermont Board is conducting a series of stakeholder workshops and will make recommendations regarding the potential for a new, binding RPS to the legislature in late 2011. In the meantime, Vermont has set non-binding renewable energy goals for 2012 and 2020, and has also implemented a Standard Offer program to provide long-term price certainty and guaranteed interconnection to small<sup>24</sup> renewable energy projects.<sup>25</sup>

Table 8 provides a summary of renewable energy standard annual percentage targets throughout New England, while Table 9 provides an estimate of the corresponding GWh RPS obligations for each of the five states with RPS requirements for the period 2007 through 2015. The forecasted RPS obligations are based on ISO-NE’s forecast of “Annual Energy Net of Passive Demand Response” found in the April 2010 CELT Report<sup>26</sup> and adjusted to exclude any public or other utility exempted from the RPS. For example, both Pascoag Utility District and Block Island Power Company have been removed from the forecast of Rhode Island REC demand.

**Table 8: Summary of New England States’ New Renewable RPS Targets (%)**

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
MA Class I	3.0%	3.5%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%
CT Class I	3.5%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.5%
RI-New	1.0%	1.5%	2.0%	2.5%	3.5%	4.5%	5.5%	6.5%	8.0%
ME Class I	0.0%	1.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%
NH Class I	0.0%	0.0%	0.5%	1.0%	2.0%	3.0%	4.0%	5.0%	6.0%

**Table 9: Projection of New England States’ New Renewable RPS Demand (GWh)**

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
MA Class I	1,529	1,761	1,932	2,321	2,807	3,290	3,767	4,291	4,820
CT Class I	1,115	1,546	1,722	2,017	2,285	2,546	2,815	3,121	3,571
RI-New	83	124	158	200	279	358	436	519	644
ME Class I	-	58	174	269	362	454	542	639	736
NH Class I	-	-	51	112	225	339	455	577	701
<b>Total</b>	<b>2,727</b>	<b>3,490</b>	<b>4,037</b>	<b>4,919</b>	<b>5,958</b>	<b>6,987</b>	<b>8,015</b>	<b>9,148</b>	<b>10,472</b>

As can be seen in Figure 7 below, Massachusetts and Connecticut represent a majority of the demand for New Renewable Resources during the period of 2007 through 2015. In 2009, these two states accounted for 48 percent and 43 percent of demand, respectively. Rhode Island represented just 4 percent of the region’s 2009 New Renewable RES demand, as shown in Figure 8. By 2015, the allocation of New Renewable RES demand across the region is projected as

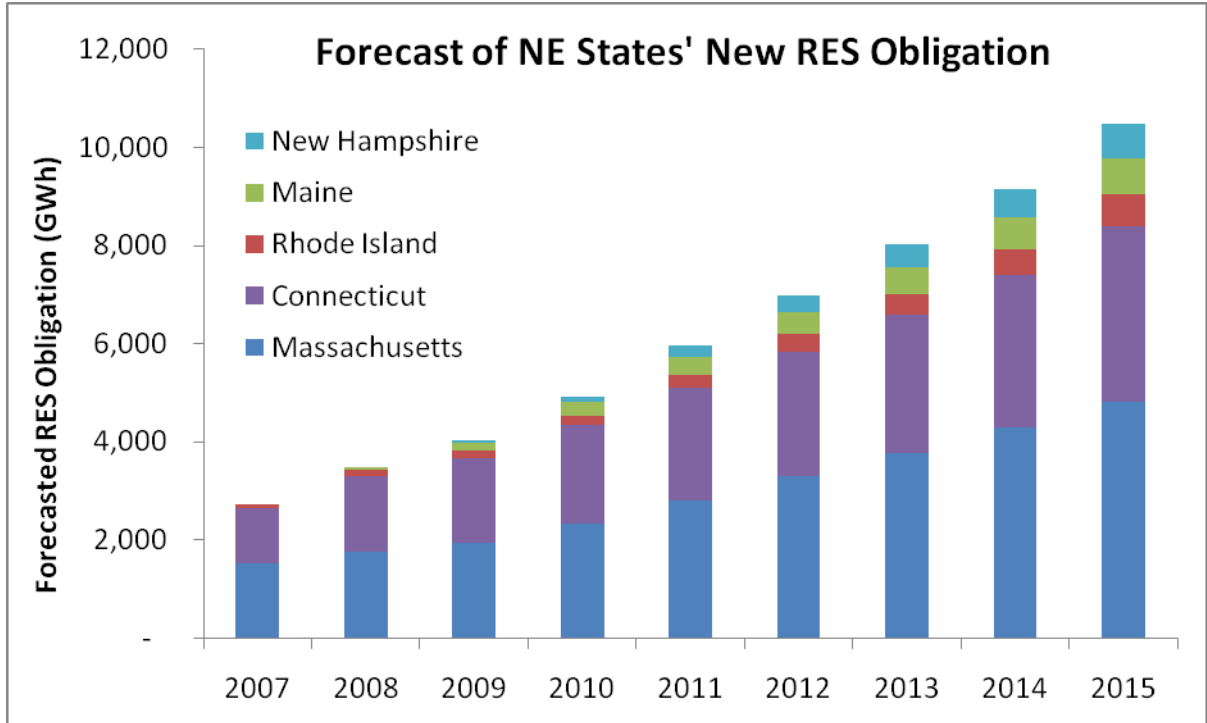
<sup>24</sup> The VT Sustainably Priced Energy Enterprise Development (SPEED) Program is open to projects less than or equal to 2.2 MW.

<sup>25</sup> Retirement of GIS Certificates is not required to meet the Vermont goals.

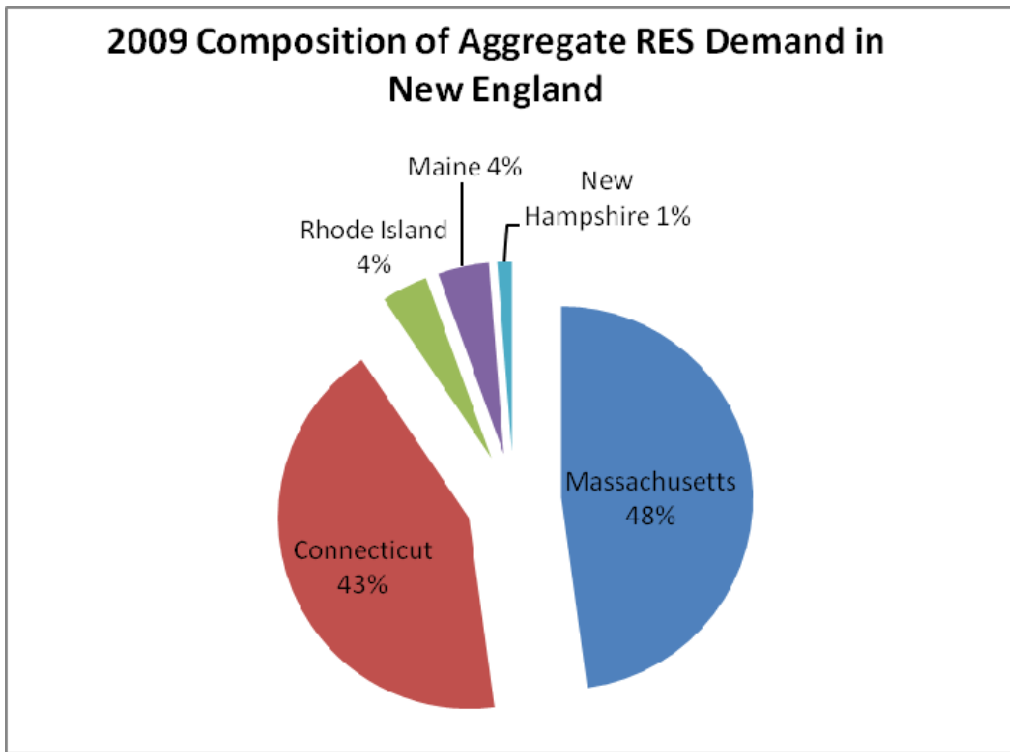
<sup>26</sup> The ISO-NE 2010 CELT Report is available at: [http://iso-ne.com/trans/celt/fsct\\_detail/2010/isone\\_fcst\\_data\\_2010.xls](http://iso-ne.com/trans/celt/fsct_detail/2010/isone_fcst_data_2010.xls)

follows: 46% Massachusetts; 34% Connecticut; 7% Maine; 7% New Hampshire; and 6% Rhode Island, as shown in Figure 9.

**Figure 7: Projection of New England States' New Renewable Energy Standard Demand**

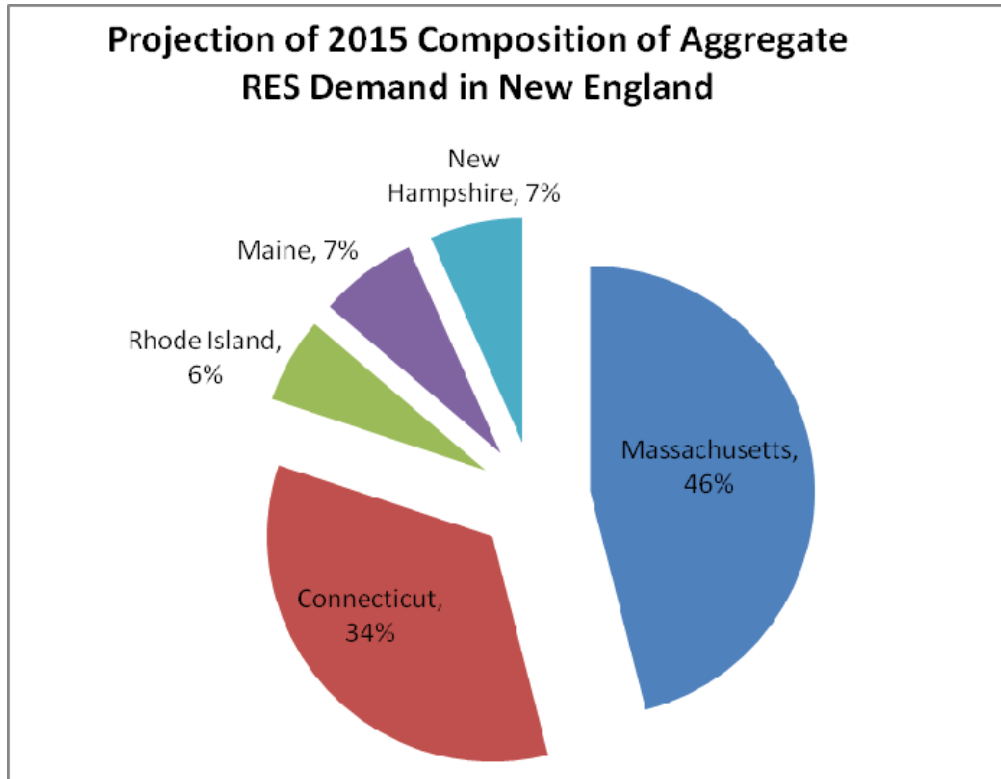


*Figure 8: Composition of 2009 New Renewable Energy Standard Demand in New England*





**Figure 9: Projected Composition of 2015 New Renewable Energy Standard Demand in New England**



## VII. Conclusion

Overall, the Commission's review and analysis reveal success through the first three years of the state's Renewable Energy Standard. Nearly 100 percent (99.99%) of the New and Existing RES Obligation was met through the retirement of GIS Certificates in 2009, with only a small amount of ACPs (2) required. These payments were made to the RIEDC on time and in the proper amounts, totaling \$121.84. In aggregate, GIS Certificates from both new and existing renewable energy supply exceeded RES Obligations. Approximately sixty percent (60%) of the New RES Obligation was met by ISO-NE supply, with the remainder was imported from the adjacent New York control area. The entire Existing RES obligation was met by generation within the ISO-NE control area.

The Commission has also witnessed an increase in the number of new renewable energy projects proposed throughout the region and adjacent control areas spurred, in part, by New England's RES and RPS programs. For example, as of the date of this filing, there were 87 qualified renewable energy resource facilities approved or conditionally approved under the Rhode Island RES, comprising 624.1 MW of renewable energy nameplate capacity. Since January 2009, there has been an increase of 39 renewable energy facilities certified under the state's RES, equal to a growth rate of 81 percent. These facilities have increased certified renewable energy capacity from which RECs can be generated by 306.9 MW, or roughly 97 percent, from January 2009 to the date of this filing. The Commission will continue to examine these trends and report on them in future compliance reports.

The success of the state's Renewable Energy Standard and growth trends in the number of qualified renewable energy facilities since 2007 leaves the Commission optimistic that the RES and similar programs throughout New England will continue to spur renewable energy development and allow these programs to continue to meet their objectives in the short-term. It is important to note, however, that Rhode Island's success is intricately linked to that of the region as a whole. Continued economic stagnation, coupled with potential changes to existing policy, may affect New England's collective ability to meet established renewable energy standards later this decade. Warning signs of difficulty in the renewable energy markets, such as the increased use of ACPs, would alert us further. Yet, much can change in the coming years and, as detailed in this report, such warning signs have not yet revealed themselves. The 2009 Compliance Year was a success and the Commission will continue to monitor the implementation of the RES to help ensure it remains so.

## **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. To view the most current RES applications status report, please visit:

[www.ripuc.org/utilityinfo/res.html](http://www.ripuc.org/utilityinfo/res.html)

Unit Name	Location: City, State	Fuel Type	Nameplate Capacity (MW)	% of output approved as New	Year Approved
<b>The following generators are located within ISO-NE:</b>					
Johnston Landfill Expansion Phase 1	Johnston, RI	LFG	2.4	100%	2007
Johnston Landfill Expansion Phase 2	Johnston, RI	LFG	6	100%	2007
Pawtucket Hydro	Pawtucket, RI	Hydro	1.35	47%	2007
Portsmouth Abbey	Portsmouth, RI	Wind	0.67	100%	2007
North Hartland Hydro	Hartland, VT	Hydro	4.664	25.60%	2007
Schiller Station Unit 5	Portsmouth, NH	Biomass	50	100%	2007
Pioneer Hydro	Ware, MA	Hydro	1.6	50.40%	2007
Coventry Landfill Units 1 - 3	Coventry, VT	LFG	4.8	100%	2008
Coventry Landfill Unit 4	Coventry, VT	LFG	1.6	100%	2008
Attleboro Landfill	Attleboro, MA	LFG	1.5	100%	2008
Pepperell Hydro	Pepperell, MA	Hydro	2.7	53.20%	2008
Woronoco Hydro	Russell, MA	Hydro	2.7	37.40%	2008
Quarry Energy <sup>1</sup>	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 Hydropower	Woonsocket, RI	Hydro	1.1	25.90%	2009
Seaman Energy	Gardner, MA	Biomass	1.62	100%	2010
Bay Center	Providence, RI	Solar	0.02	100%	2010
Genco <sup>1</sup>	Johnston, RI	Biomass	33.4	100%	2010
<b>The following generators are located in control areas adjacent to ISO-NE:</b>					
Higley Hydro	Colton, NY	Hydro	6.2	100% <sup>2</sup>	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
Ontario	Stanley, NY	LFG	5.6	100%	2007
Mill Seat Landfill	Bergen, NY	LFG	4.8	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
Munnsville Wind Farm	Bouckville, NY	Wind	34.5	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	4.8	100%	2009
<sup>1</sup> Conditionally approved.					
<sup>2</sup> Subject to PUC review; portion of unit may be classified as an Existing Resource.					
Shading indicates newly approved facility 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. To view the most current RES applications status report, please visit:

[www.ripuc.org/utilityinfo/res.html](http://www.ripuc.org/utilityinfo/res.html)

Unit Name	Location: City, State	Fuel Type	Nameplate Capacity (MW)	% of output approved as Existing	Year Approved
<b>The following generators are located within ISO-NE:</b>					
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 Hydro	Pawtucket, RI	Hydro	1.35	53%	2007
North Hartland Hydro	Hartland, VT	Hydro	4.664	74.40%	2007
Blackstone Hydro	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	Ware, MA	Hydro	1.6	49.60%	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	Nashua, NH	Hydro	1.1	100%	2007
Briar Hydro	Penacook, NH	Hydro	5.58	100%	2007
Penacook Lower Falls	Boscawen, NH	Hydro	4.69	100%	2007
Benton Falls	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	Pepperell, MA	Hydro	2.7	46.80%	2008
Woronoco Hydro	Russell, MA	Hydro	2.7	62.60%	2008
Williams Project	Solon, ME	Hydro	14.8	100%	2009
Monty Project	Lewiston, ME	Hydro	27	100%	2009
Cataract Project	Saco, ME	Hydro	6.65	100%	2009
Hiram Project	Baldwin, ME	Hydro	10.9	100%	2009
North Gorham Project	Gorham, ME	Hydro	2.25	100%	2009
Shawmut Project	Shawmut, ME	Hydro	8.1	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	74.10%	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
<b>The following generators are located in control areas adjacent to ISO-NE:</b>					
High Acres I	Fairport, NY	LFG	3.2	64.20%	2009
<sup>1</sup> Conditionally approved. Shading indicates newly approved facility since last compliance report					

### 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 GIS Certificates or through the provision of Alternative Compliance Payments (“ACPs”), obtained by making payment to the Rhode Island Economic Development Corporation (“RIEDC”). The RIEDC 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 2009, the ACP rate was \$60.92 per MWh of obligation.

Compliance Year	ACP Rate
2007	\$57.12
2008	\$58.58
2009	\$60.92
2010	\$60.93

Connecticut, Maine, Massachusetts, and New Hampshire all have similar ACP compliance mechanisms. The Table below shows the 2009 ACP rates used by other New England states for the various class RECs defined in each state.

2009 ACP Rates	CT	ME	MA	NH
Class I	\$55	\$60.92	\$60.92	\$60.92
Class II	\$55	N/A	\$25	\$159.98
Class III	\$31	N/A	N/A	\$29.87
Class IV	N/A	N/A	N/A	\$29.87

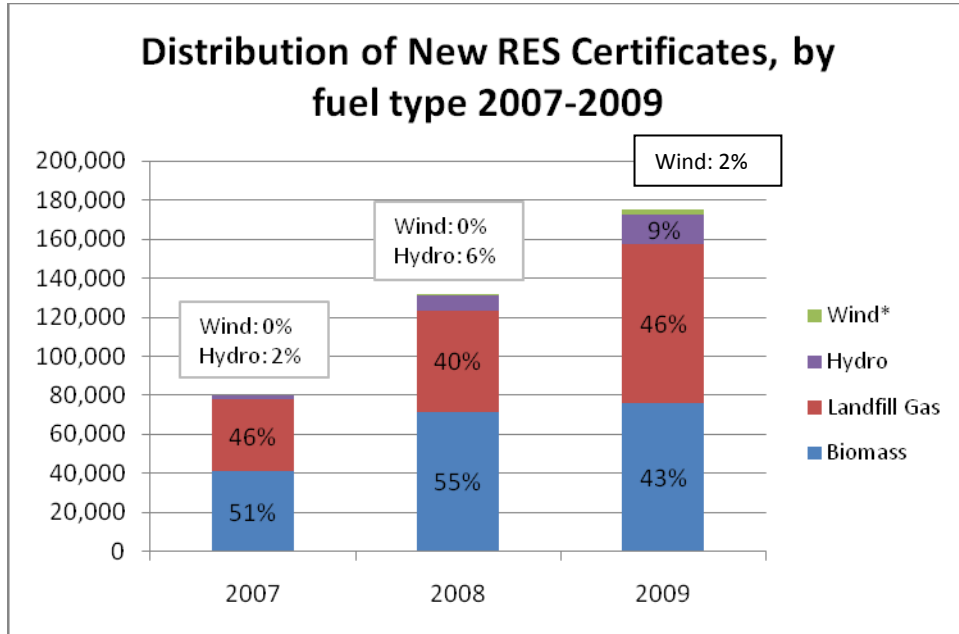
## Appendix 4: Rhode Island Renewable Energy Standard 2009 Compliance Summary

	Retail Sales (from filing)		RES Obligation (calculated)		GIS Certificates (from GIS)		"New" Renewable Energy Resources (from filing)			"Existing" Renewable Energy Resources (from filing)			Banked New RECs for Future Compliance				
	Load	2% "New" Obligation	2% "Existing" Obligation	"New" RECs	"Existing" RECs	Applied Banked Attributes ("New")	Alternative Compliance Credits ("New")	Total "New" RES Attributes	Alternative Compliance Credits ("Existing")	Total "Existing" RES Attributes	Excess "New" Attributes	Banking Limit (30% "New")	Eligible Banked Attributes				
	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh				
<b>Utilities</b>																	
<b>Distribution Companies</b>																	
Narragansett	5,902,667	118,055	118,055	125,237	118,053	981	0	126,218	0	118,053	8,161	35,417	8,161				
<b>Competitive Suppliers</b>																	
Constellation New Energy																	
Devonshire Energy																	
Direct Energy Services																	
Gexa Energy																	
Glacial Energy of New England																	
Hess Corporation																	
Inegrys Energy Services																	
Liberty Power Holdings																	
Sempra Energy Solutions																	
SJH Energy (St. Joseph Health Services)																	
South Jersey Energy																	
TransCanada Power Marketing																	
Westerly Hospital Energy Company																	
<b>subtotal</b>	<b>2,007,445</b>	<b>40,157</b>	<b>40,157</b>	<b>50,278</b>	<b>145,945</b>	<b>4,621</b>	<b>1</b>	<b>54,900</b>	<b>1</b>	<b>145,946</b>	<b>11,148</b>	<b>12,047</b>	<b>8,129</b>				
<b>Totals</b>	<b>7,910,112</b>	<b>158,212</b>	<b>158,212</b>	<b>175,515</b>	<b>263,998</b>	<b>5,602</b>	<b>1</b>	<b>181,118</b>	<b>1</b>	<b>263,999</b>	<b>19,309</b>	<b>47,464</b>	<b>16,290</b>				

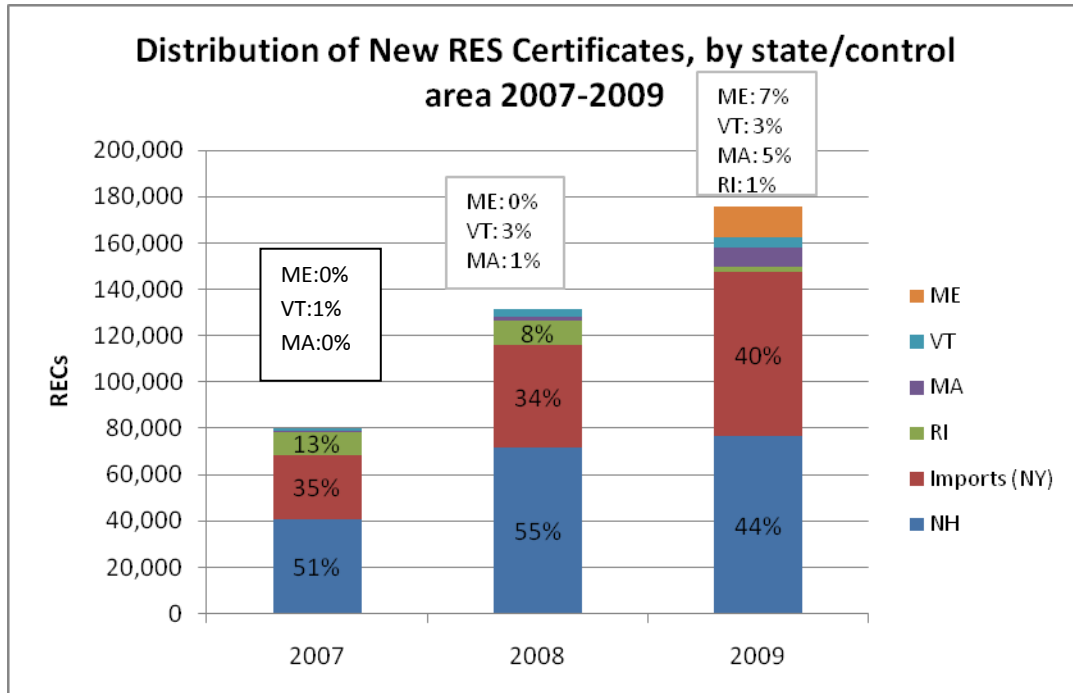


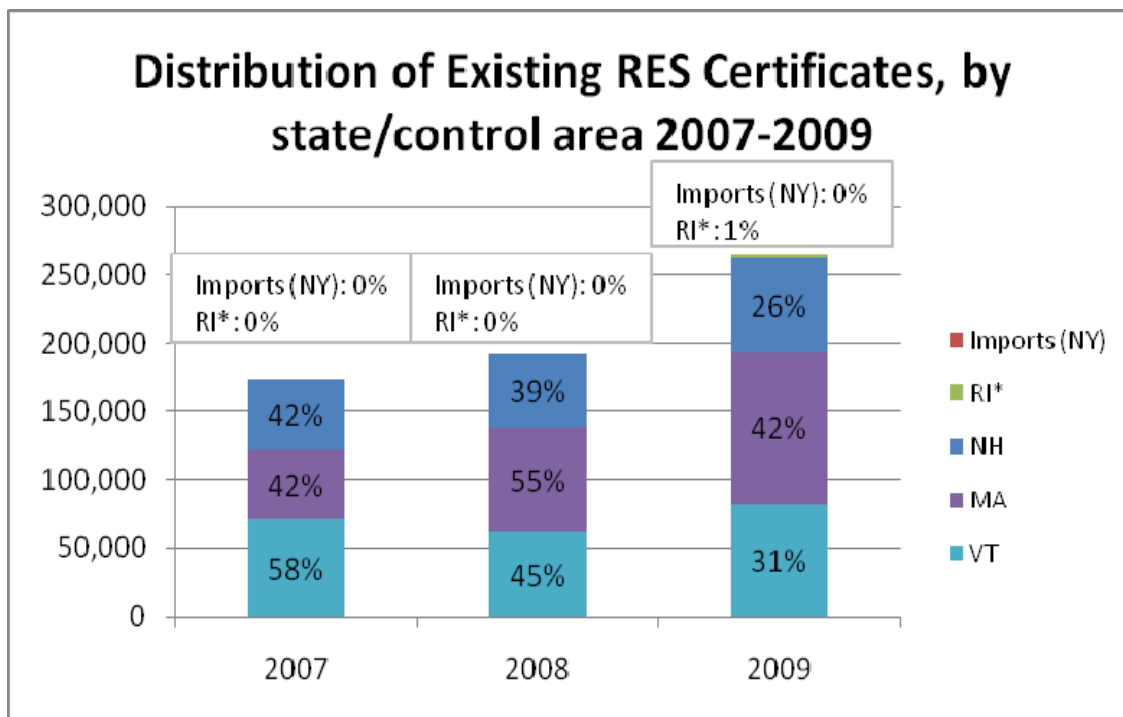
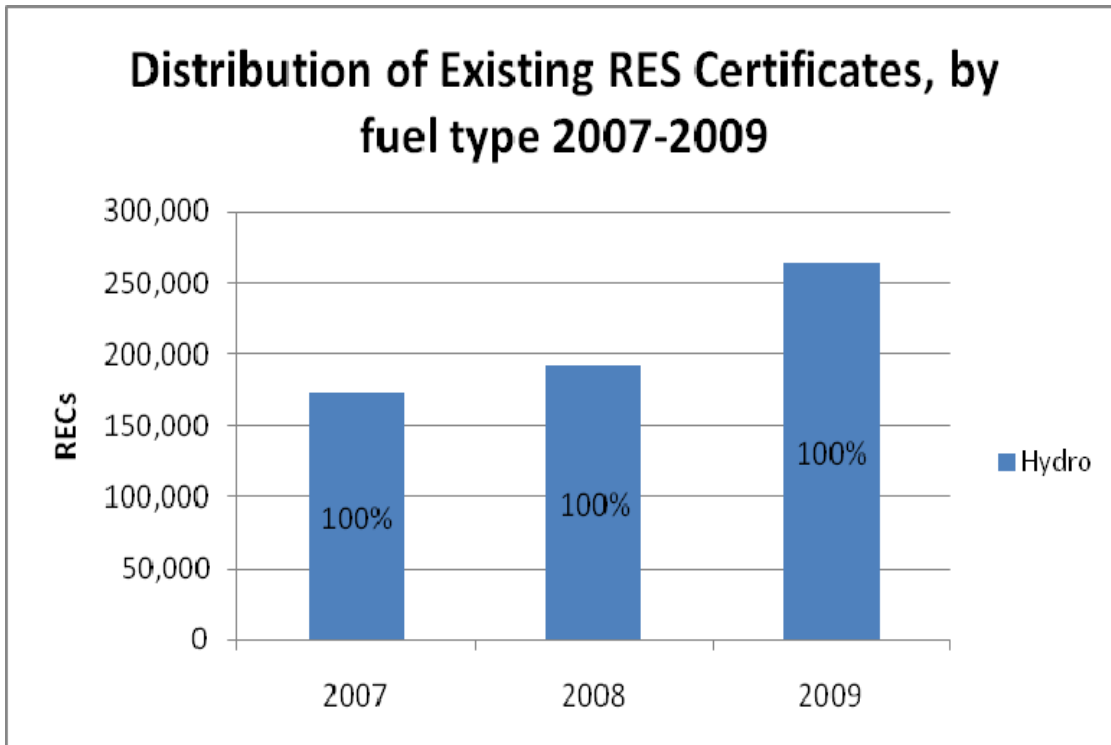
## Appendix 5: Historical Breakdown of Compliance Sources

The charts below provide additional detail on the breakdown of New and Existing RECs purchased by Obligated Entities for 2007-2009.

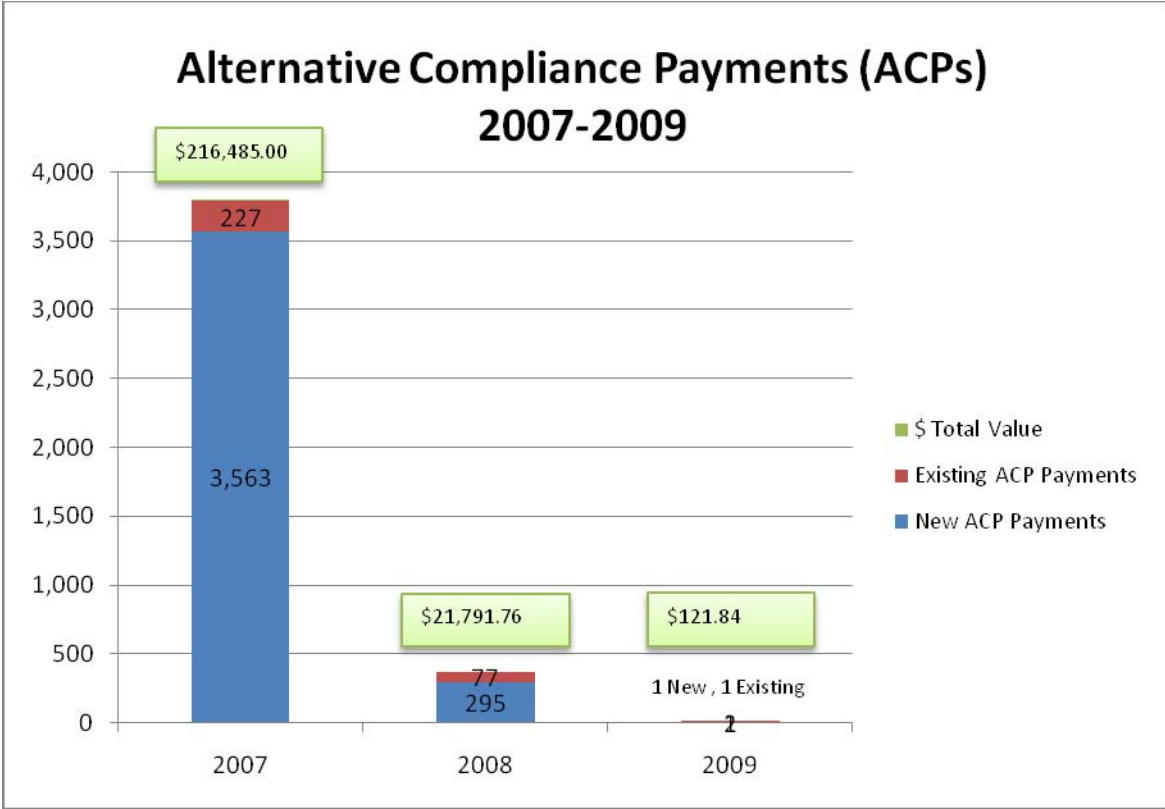


\*There were 3,000 (2%) New RES Certificates from wind resources applied to Obligated Entities' obligations in 2009; 389 in 2008; and 0 in 2007. The 3,000 Certificates in 2009 and 389 Certificates in 2008 are just barely visible in the bar graph.

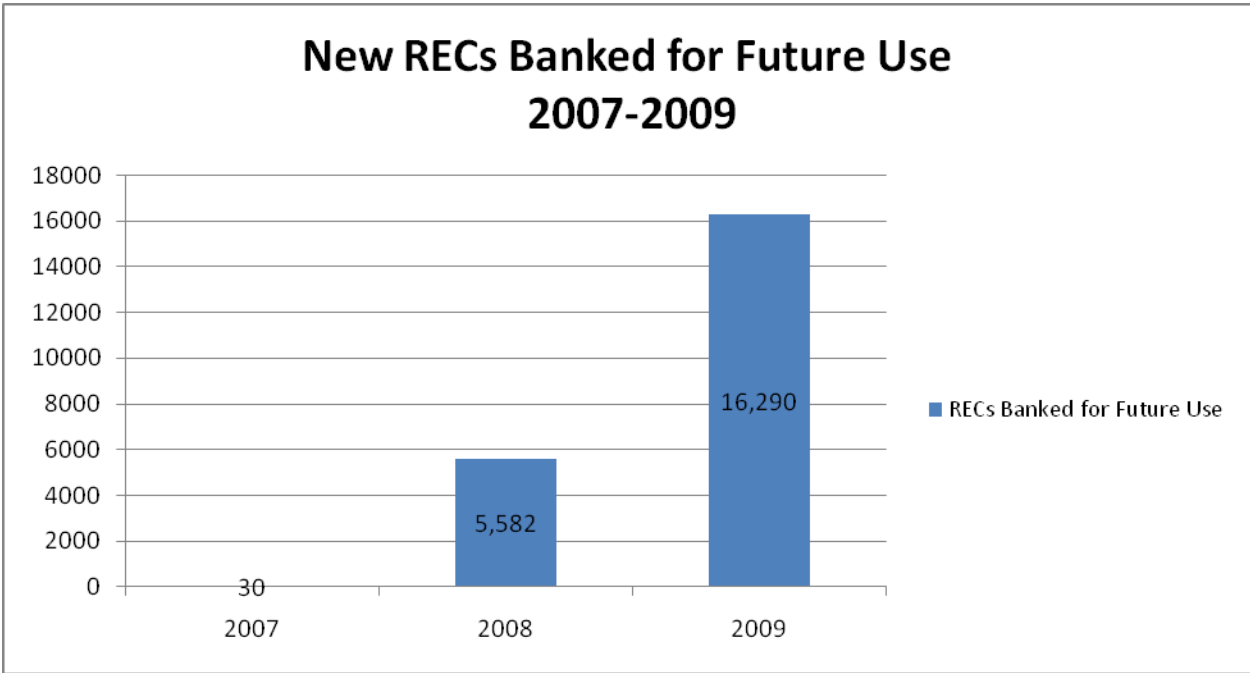




\*There were 1,964 Existing RES Certificates from Rhode Island applied to Obligated Entities' obligations in 2009; 0 in 2008; and 156 in 2007. These Rhode Island Certificates represent too small a portion of the Existing Certificates in 2009 to be visible in this chart.



There were 2 ACP payments made in 2009 totaling \$121.84. In 2008, 372 payments were made totaling \$21,792 and 3,790 in 2007 totalling \$216,485 to the RIEDC.



## 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>27</sup> clean energy programs or as the voluntary green power market. Narragansett Electric’s “GreenUp” program is just one example.

For the 2009 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 on behalf of customers.

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

<b>New RECs</b>		<b>2008</b>	<b>2009</b>
A	Total New RECs settled in Rhode Island on behalf of end-use customers for voluntary clean energy programs	<b>5,350</b>	<b>7,480</b>
A.1	<i>New Voluntary RECs – Narragansett Electric</i>	<i>5,161</i>	<i>6,833</i>
A.2	<i>New Voluntary RECs – All Competitive Suppliers</i>	<i>189</i>	<i>647</i>

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

The GIS Certificate 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, 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. For example, National Grid hosts voluntary renewable energy programs in both Rhode Island and Massachusetts. The use of GIS Certificates and the annual review of

<sup>27</sup> By comparison, the RES is referred to as the “mandatory” or “compliance” renewable energy market.

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 that:

*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 GIS Certificates, it is nonetheless important to the integrity of both programs that all certificates are tracked and settled appropriately.