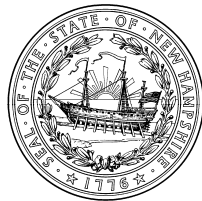


STATE OF NEW HAMPSHIRE



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NEW HAMPSHIRE
RENEWABLE ENERGY FUND
Annual Report

October 1, 2010

New Hampshire Public Utilities Commission

Submitted to:

**THE LEGISLATIVE OVERSIGHT COMMITTEE
ON ELECTRIC UTILITY RESTRUCTURING**

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Introduction

This report provides an overview of the Renewable Energy Fund (REF) established pursuant to RSA 362-F, New Hampshire's Renewable Portfolio Standard (RPS) law and managed by the Public Utilities Commission (Commission). The REF is supported solely by the alternative compliance payments (ACPs) that electric service providers must make to the fund if they do not purchase or obtain sufficient renewable energy certificates (RECs) to meet minimum percentage requirements of customer load from renewable energy sources. A REC represents a megawatt-hour (MWh) of electricity generated from a renewable generation source and is traded separately from such electricity in the New England wholesale market. In July 2009 the REF had revenues of \$4.48 million. Revenues in 2010 decreased to \$1.34 million.

Pursuant to RSA 362-F:10, the Commission administers REF monies to support renewable energy initiatives and programs, and to offset the administrative costs of the RPS program. The REF supports two residential renewable energy rebate programs and the new commercial and industrial (C&I) sector solar electric and thermal rebate program. The two residential rebates program are for renewable electric generation systems, including solar photovoltaic (PV) and wind power systems, mandated by RSA 362-F:10, V and for solar water heating systems established pursuant to RSA 362-F:10, VIII. In addition, the Commission will issue a competitive request for proposals (RFP) by March 2011 for renewable energy initiatives in the nonresidential sector to be funded with REF monies.

In 2009, electric service providers met the majority of their RPS requirements by acquiring RECs, rather than making ACPs. ACPs are the sole source of revenue for the REF. Furthermore, due to an excess supply of RECs, most of the electric service providers also banked low cost RECs towards future compliance.

Since 2008, the Commission has certified 181 renewable electric generation facilities in New Hampshire, other New England states and New York as eligible to produce and sell RECs to New Hampshire electric service providers. The decrease in ACPs from 2009 to 2010 resulted from greater market supply and, consequently, the lower cost of Class I and Class III RECs. The price of Class I and Class II RECs even fell below the price of Class III and Class IV prices, creating a situation in which RECs produced by existing renewable generation facilities are more valuable than those associated with new renewable power installations.

The fluctuating market prices for RECs create uncertainty regarding the amounts of future deposits in the REF available for renewable energy initiatives. This uncertainty makes it difficult for the Commission to effectively forecast available revenues and to offer program continuity from one funding cycle to the next.

Legislative Background

On May 11, 2007, Governor John Lynch signed House Bill 873 into law, codified as RSA 362-F, which established New Hampshire's electric RPS law. RSA 362-F mandates that a minimum of 23.8 percent of the state's electricity come from RPS eligible renewable sources by 2025. This is in addition to certain renewable hydro electric generation sources that are not eligible for RECs under the RPS. This statutory goal will help New Hampshire meet or exceed the 25 x '25 initiative endorsed by Governor Lynch in August 2006, which calls for renewable resources to provide 25 percent of New Hampshire's total energy requirements by 2025.

The RPS law establishes four types of renewable energy classes:

- Class I includes generation facilities that began operation after January 1, 2006 and produce power from the following sources: wind, solar, geothermal, hydrogen (derived from biomass fuels or methane gas), ocean thermal, wave, current, tidal energy, methane gas, eligible biomass technologies, incremental generation and the displacement of electricity from solar water heating systems.
- Class II includes generation facilities that produce electricity from solar technologies and began operation after January 1, 2006.
- Class III includes existing landfill methane gas facilities and eligible biomass facilities that began operation on or before January 1, 2006.
- Class IV includes qualified hydroelectric facilities that began operation on or before January 1, 2006.

Pursuant to RSA 362-F, providers of electric service must meet a certain minimum percentage of the load they serve with renewable energy resources from the four classes. For the 2009 compliance year, electric service providers were required to obtain renewable energy, represented by RECs, from Class I (0.5 percent), Class III (4.5 percent) and Class IV (0.5 percent). Electric service providers that cannot meet these REC requirements must make prescribed ACPs to the REF created by RSA 362-F by July 1 following the compliance year (July 1, 2010 for the 2009 compliance year). Pursuant to the statute, monies in the REF shall be used to support renewable energy initiatives.

In 2008, the General Court amended RSA 362-F:10 to require the Commission to offer a one-time incentive payment from the REF to residential owners of certain small renewable generation facilities that produce electricity with renewable technologies, typically solar electric panels or wind turbines. To be eligible for the incentive payment, the renewable generation facility must qualify as a Class I or II source, have a total peak generation capacity of less than 5 kilowatts, begin operation on or after July 1, 2008 and be located on or at the owner's residence. The original incentive was a one-time payment of \$3 per watt of generation capacity, up to a maximum payment of \$6,000, or 50 percent of the system costs, whichever is less. The legislature recently enacted House Bill 1270 (2010 N.H. Laws Ch. 254), which granted the Commission authority to reduce this incentive level and make other modifications to this program after notice and hearing, by order or by rule, and for good cause, effective starting on the date of enactment, which was July 6, 2010.

With the passage of HB 1270, the General Court also instructed the Commission to reasonably balance overall expenditures from the REF between residential and non-residential sectors based on the proportion of electricity sold at retail to each sector, over each 2-year period commencing July 1, 2010. (RSA 362-F:10, X). The new law also limits the overall funding for the residential renewable electric incentive program to 40 percent of the REF over each two-year period. Currently the residential sector accounts for 41 percent of statewide retail electricity sales, while the non-residential sector (commonly referred to as the C&I sector) comprises 59 percent of retail electricity sales.

Commencing in January 2011, 2018 and 2025, RSA 362-F:5 requires the Commission to conduct a review of the RPS requirements and other aspects of the RPS program. By the following November 1, the Commission must submit a report to the legislature. The Commission must review, in light of the purposes of the RPS legislation and with due consideration of the importance of stable long-term policies, the following:

- The adequacy or potential adequacy of sources to meet the RPS requirements;
- The class requirement of all sources in light of existing and expected market conditions;
- The potential for addition of a thermal energy component;
- Increasing the Class I and Class II requirements beyond 2025;
- The introduction of a new class such as an energy efficiency class or the consolidation of existing ones;
- Possible adjustments to new and/or existing classes;
- Evaluation of the benefits and risks of using multi-year purchase agreements for certificates, along with purchased power, in consideration of the restructuring policy principles of RSA 374-F:3;
- Alternative methods for RPS compliance; and
- The distribution of the REF.

Renewable Energy Fund Expenditures and Current Balance

To date, most REF monies have been used to support residential thermal and electric renewable energy incentive programs. The first of these programs, mandated by RSA 362-F:10, V, is the incentive program for small residential solar electric or wind generation systems. Between July 2009, when the REF monies first became available, and September 30, 2010, the Commission received 503 applications requesting incentive payments towards the cost of 465 solar electric and 38 wind power installations. The average installed capacity of a typical residential system is 3 kilowatts (kW), and all 503 facilities have a total capacity of 1.48 MW.

The amount of funds requested by applicants approximates \$2.8 million, and the amount disbursed so far has been about \$1.9 million. The \$2.8 million in rebates will leverage the \$10.2 million in total costs associated with installing these facilities, thereby yielding a private to public funded program ratio of 2.5 to 1.

On September 15, 2010, the Commission issued an order reducing the incentive level to \$1.25 per watt up to a maximum of \$4,500 or 50 percent of eligible system costs, whichever is less, for applications received or postmarked September 16 or later.

In April 2010, the Commission launched a second program, which includes two incentives for homeowners who install qualified solar hot water systems. The first incentive, which is funded by the REF, is \$600 to \$900, depending on the size of the solar heating installation. The second, incentive of \$750, is available for consumers replacing existing hot water heaters with solar water heating systems. The Office of Energy and Planning provided the Commission with \$516,000 in federal American Recovery and Reinvestment Act funding to support the second incentive, which was predicated on the establishment of a state funded incentive program. As of September 30, 2010, the Commission received 71 applications for solar hot water system rebates. Of the \$44,250 in requested state rebates, the Commission has paid \$18,900 to applicants. The Commission has also paid \$18,750 of the requested \$44,100 in federally-funded rebates.

In April 2010, the Commission also established a separate, non-REF funded rebate program totaling \$500,000 for residential bulk-fuel fed wood pellet central boilers and furnaces. The rebate of 30 percent of system costs up to a maximum of \$6,000 is funded by the Federal American Recovery and Reinvestment Act funds and is made available by the New Hampshire Office of Energy and Planning.

In addition to the residential incentive programs, the Commission has just established an incentive program for commercial and industrial (C & I) solar electric and solar hot water installations. Order No. 25,151, Docket No. DE 10-212. The Commission has allocated \$1 million of the REF for this program, which begins in October 2010. The Commission has also allocated \$1 million for a Request for Proposals for renewable energy initiatives that it will issue before March 1, 2011 pursuant to RSA 362-F:10, X.

Table 1 demonstrates how funds have been expended and budgeted to date. The Commission is determining how much to set aside for the C & I solar electric and solar thermal incentive programs and RFP programs.

Table 1: Renewable Energy Fund Balance, as of September 30, 2010

As of September 30, 2010	Amount
2009 ACPs into REF	\$4,483,917
Less, Admin. (actual)	\$221,996
Res. Elec. Gen, Rebates paid	\$1,529,089
REF Balance 6/30/2010	\$2,732,832
Plus, 2010 ACPs into REF	\$1,344,188
REF Balance forward for FY 11 and future	\$4,077,020
Less, Admin (budgeted)	\$360,326
Less, Res. Solar Hot Water Heating Reserved for FY 2012	\$250,000
Balance Available for FY 2011 Programs	\$3,466,694
59% for C&I Programs	\$2,045,349
41% for Residential Programs	\$1,421,345
Less, Res. Solar Hot Water Heating Reserved for FY 2011	\$248,200

Balance Available for FY 2011 Residential Electric Generation Rebates	\$1,173,145
Rebates paid	\$374,104
Rebates reserved	\$363,941
Rebates requested but not yet approved through Sept. 15, 2010	\$527,542
Rebates requested under the reduced Res. PV & Wind Rebate of \$1.25 per Watt September 16-30, 2010	\$37,013
Total Res. Elec. Gen. Rebates Paid, reserved or pending review, YTD FY 11	\$1,302,600
Amount Residential Electric Generation Rebate program may be oversubscribed, YTD, that may have to go on a waiting list for funding in a future year (pending review of applications).	\$129,455

Pursuant to RSA 362-F:10, the Commission may use REF monies to administer the RPS program and renewable energy incentive programs. The budgeted 2010 fiscal year appropriation for administrative expenditures is \$377,000. The actual total administrative costs were \$222,000. These expenditures include a portion of the Commission’s current expenses; personal services such as salaries, benefits, training; consulting services; and transfers to other state agencies.

Table 1 also shows that after allocating funds available for FY 2011, net of budgeted administrative expenses, between residential and C&I programs in proportion to electricity sales in these sectors, the amount allocated for the residential electric generation program pursuant to RSA 362-F:10, V, is \$1,173,145. The amount of rebates paid for this program year to date (YTD), plus the amount of rebates reserved (approved applications that haven’t been completed or paid yet), plus the amount of pending applications, exceeds the allocation by \$129,455. Applications will be processed in the order received, but some approved applications will likely not have funds reserved and will have to wait until a future year to see if there will be funding available to eventually pay a rebate.

Electric Renewable Portfolio Standard Obligations

Electric service providers must comply with the RPS minimum requirements on a calendar-year basis and file reports regarding their compliance on July 1st of the following year. The four electric distribution utilities and seven competitive electric power suppliers were required to comply with the RPS law in 2009. These entities, listed in the following table, filed annual compliance reports with the Commission on July 1, 2010. Their reports indicate whether the RPS standard was met by the acquisition of RECs or by payments into the REF.

Table 2: Electric Service Providers

Electric Distribution Utilities
Granite State Electric Co. d/b/a National Grid
NH Electric Cooperative
Public Service Company of NH
Unitil Energy Systems, Inc.
Competitive Electric Power Suppliers*
ConEdison
Constellation New Energy, Inc.
Glacial Energy of NH
Hess Corporation
Integrus Energy Services, Inc.
South Jersey Energy Company
TransCanada

* As of December 31, 2009.

For 2009, electric service providers were required to obtain RECs equal to 0.5 percent of electricity supplied to retail customers from Class I sources, 4.5 percent from Class III sources and 1.0 percent from Class IV sources or make ACPs into the renewable energy fund. The RPS obligations by class and year are found in Table 2.

Table 3: Minimum Electric Renewable Portfolio Standard Requirements

Calendar Year	Class I	Class II	Class III	Class IV
2008	0.00%	0.00%	3.50%	0.50%
2009	0.50%	0.00%	4.50%	1.00%
2010	1.00%	0.04%	5.50%	1.00%
2011	2.00%	0.08%	6.50%	1.00%
2012	3.00%	0.15%	6.50%	1.00%
2013	4.00%	0.20%	6.50%	1.00%
2014	5.00%	0.30%	6.50%	1.00%
2015	6.00%	0.30%	6.50%	1.00%
2016	7.00%	0.30%	6.50%	1.00%
2017	8.00%	0.30%	6.50%	1.00%
2018	9.00%	0.30%	6.50%	1.00%
2019	10.00%	0.30%	6.50%	1.00%
2020	11.00%	0.30%	6.50%	1.00%
2021	12.00%	0.30%	6.50%	1.00%
2022	13.00%	0.30%	6.50%	1.00%
2023	14.00%	0.30%	6.50%	1.00%
2024	15.00%	0.30%	6.50%	1.00%
2025	16.00%	0.30%	6.50%	1.00%

The minimum percentage requirements in Table 3 are applied to the total megawatt hours (MWhs) of electricity supplied by the electric service provider to its end-use customers during the

compliance year. (See Appendix A, Table 1 for projected RPS obligations in MWhs.) New Hampshire electric service providers reported that they supplied approximately 10.1 million MWh in electricity to their customers in 2009.¹ For this amount of electricity, electric service providers had to acquire approximately 51,000 Class I RECs, 456,000 Class III RECs and 101,000 Class IV RECs.

Table 4: 2009 Electric Service Providers' REC Obligations (MWh)

	Total Retail Sales Used to Calculate Obligation	Class I Obligation	Class III Obligation	Class IV Obligation
Distribution Utilities				
Granite State Electric Company d/b/a National Grid	601,338	3,007	27,060	6,013
New Hampshire Electric Cooperative	678,681	3,393	30,541	6,787
Public Service Company of NH	6,283,185	31,416	282,743	62,832
Unitil Energy Systems, Inc.	813,839	4,069	36,623	8,138
Distribution Utilities' Total	8,377,043	41,885	376,967	83,770
Competitive Suppliers' Total	1,753,059	8,765	78,888	17,531
New Hampshire Total	10,130,101	50,651	455,855	101,301

Pursuant to RSA 362-F, electric service providers are required to purchase or acquire RECs from suppliers participating in the New England Power Pool Generation Information System (NEPOOL GIS).² The NEPOOL GIS tracks all electricity and RECs generated within the Independent System Operator (ISO) New England and electricity exchanged between the New England control area and adjacent control areas. The NEPOOL GIS also tracks the environmental attributes of each MWh sold. In the NEPOOL GIS, a Renewable Energy Certificate, or REC, represents one MWh of electricity generated by renewable resources. Each REC is classified based on the source of energy (e.g. wind, solar, hydro, etc.) and may be purchased separately from the associated electricity. In addition, the NEPOOL GIS assists the New England states in the implementation of RPS laws by identifying which RECs are eligible for purchase in each state.

The Commission has the authority to certify renewable facilities as eligible to produce New Hampshire RECs and notifies the GIS each time it issues a certification. Since 2007, the Commission has received applications requesting certification of 201 facilities to produce New Hampshire RECs. The Commission denied the certification of 2 facilities and declined to act on 12 applications that were incomplete. Of the 181³ certified facilities, 40 facilities are certified to

¹ The total retail MWh supplied to customers may not match the total retail sales reported by the distribution utilities in their FERC Form No. 1 and Commission Annual Reports because the competitive suppliers' RPS obligations exclude retail electricity, other than default service, sold under a supply contract executed prior to January 1, 2007. (See RSA 362-F:2, IX.)

² Each provider's RPS obligation and the number of RECs acquired through the NEPOOL GIS was verified by the GIS reports submitted with the E-2500 Form RPS Compliance Reports.

³ The total number of facilities includes generation sites that have multiple facilities.

produce Class I RECs, 111 facilities are certified to produce Class II RECs, 16 facilities are certified to produce Class III RECs and 14 are certified to produce Class IV RECs.⁴ All 181 facilities have an aggregated nameplate capacity of approximately 488 megawatts. The capacity for each class is listed in Table 5.

Table 5: Approved Facilities by Class, as of September 30, 2010

	Nameplate Capacity (MW)	Number of Facilities
Class I	321.2	40
Class II	6.2	111
Class III	128.5	16
Class IV	31.9	14
Total	487.8	181

Even before the minimum RPS requirements for Class I and Class II RECs began in 2009 and 2010, respectively, representatives of renewable energy facilities submitted applications to the Commission for certification as a renewable energy source eligible to produce RECs. For instance, the Commission certified 30 Class II REC facilities before 2010 when the requirement to purchase Class II RECs becomes applicable. (See Appendix B for the list of certified facilities.) RECs acquired from these facilities were banked for future compliance.

Table 6: Approved Facilities by Year Certified⁵

	2008	2009	2010	Total
Class I	6	25	9	40
Class II	3	27	81	111
Class III	2	13	1	16
Class IV	9	3	2	14
Total	20	68	93	181

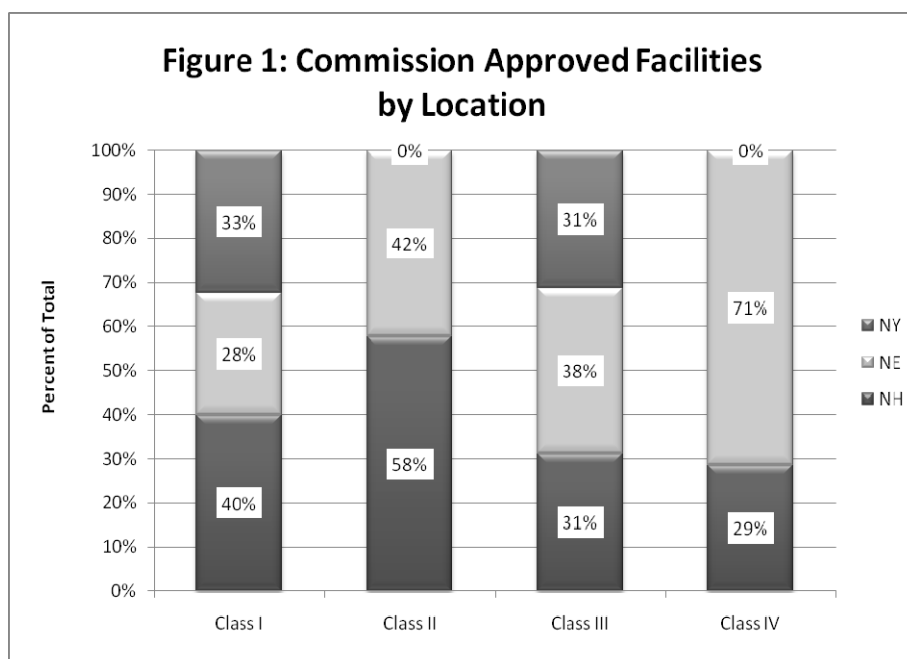
New Hampshire's RPS law allows electric service providers to acquire RECs from out of state certified sources. More than half of the Commission certified Class II facilities are located in New Hampshire. The majority of Class I, III and IV facilities, however, are located outside of New Hampshire.

Table 7: NH Approved Facilities by Location

	NH	NE	NY	Total
Class I	16	11	13	40
Class II	64	47	0	111
Class III	5	6	5	16
Class IV	4	10	0	14
Total	89	74	18	181

⁴ Pursuant to the enactment of HB 229 in 2009, the N.H. Legislature certified six hydroelectric facilities to produce Class IV RECs for a limited time period (the second half of 2008 and the first quarter of 2009).

⁵ 2010 figures are reported here and throughout this report as of September 30, 2010.



Pursuant to the RPS statute, electric service providers must acquire RECs or make ACPs into the REF. The majority of RECs used for RPS compliance in 2009 were associated with electricity generated in 2009.⁶ The electric service providers met 100 percent of their Class I and Class III REC obligations and 58 percent of their Class IV REC obligation by purchasing or acquiring RECs, as shown in Table 8.

Table 8: RECs Acquired for 2009 Compliance

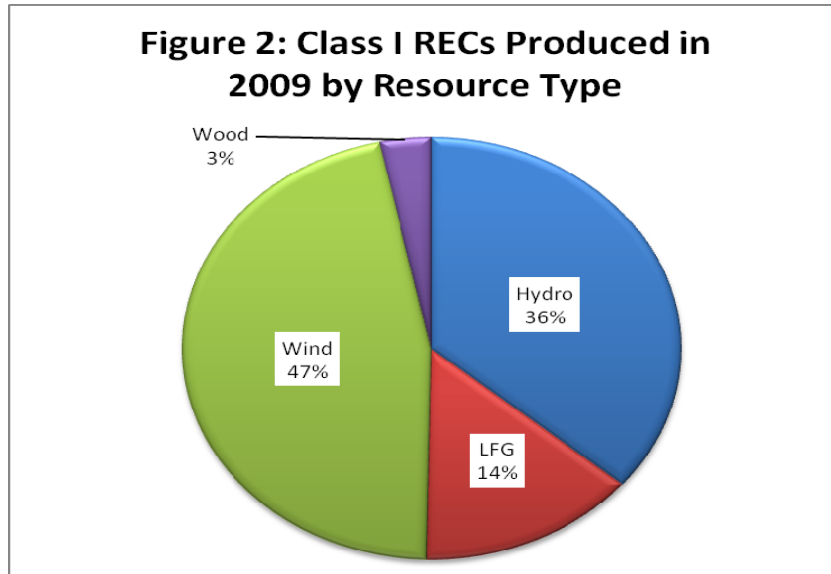
	Class I RECs	Class III RECs	Class IV RECs	Percent of Class I Obligation	Percent of Class III Obligation	Percent of Class IV Obligation
Distribution Utilities						
Granite State Electric Company d/b/a National Grid	3,007	27,061	6,014	100%	100%	100%
New Hampshire Electric Cooperative	3,393	30,541	6,787	100%	100%	100%
Public Service Company of NH	31,416	282,744	30,974	100%	100%	49%
Unitil Energy Systems, Inc.	4,069	36,623	8,138	100%	100%	100%
Distribution Utilities' Total	41,885	376,969	51,913	100%	100%	62%
Competitive Suppliers' Total	8,766	76,262	7,015	100%	97%	40%
New Hampshire Total	50,651	453,231	58,928	100%	99%	58%

Electric service providers purchased approximately 80 percent of Class I RECs and 90 percent of Class III RECs and Class IV RECs for 2009 compliance. The remainder of RECs

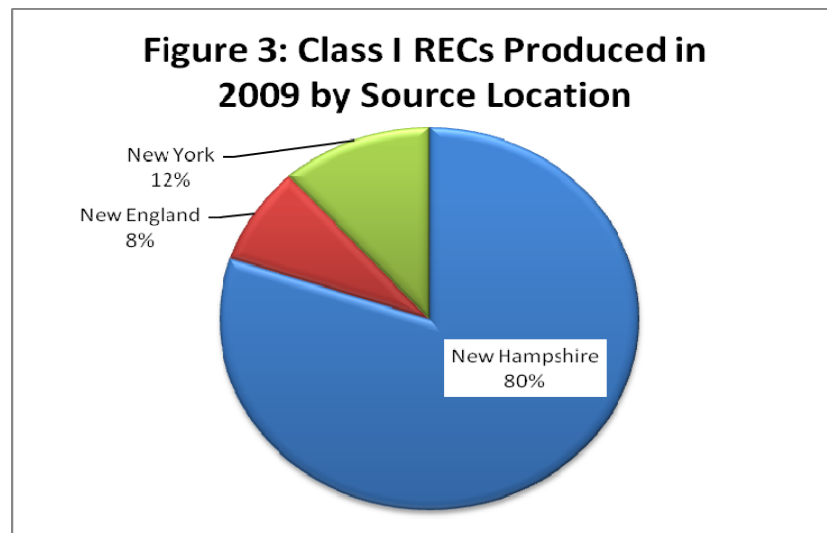
⁶ RSA 362-F:7 allows electricity providers to acquire up to 30 percent of their obligation from certificates banked from previous compliance years or generated during the quarter following the compliance year.

acquired for compliance were either banked in 2008 or borrowed during the first quarter of 2010. The following analysis focuses on RECs produced in 2009.

Electric service providers acquired a significant amount of 2009 Class I RECs from New Hampshire wind and hydroelectric sources, specifically from the Lempster Wind facility and incremental generation from the Brodie J. Smith Hydropower Station on the Androscoggin River. The overall mix is shown in Figure 2 below.

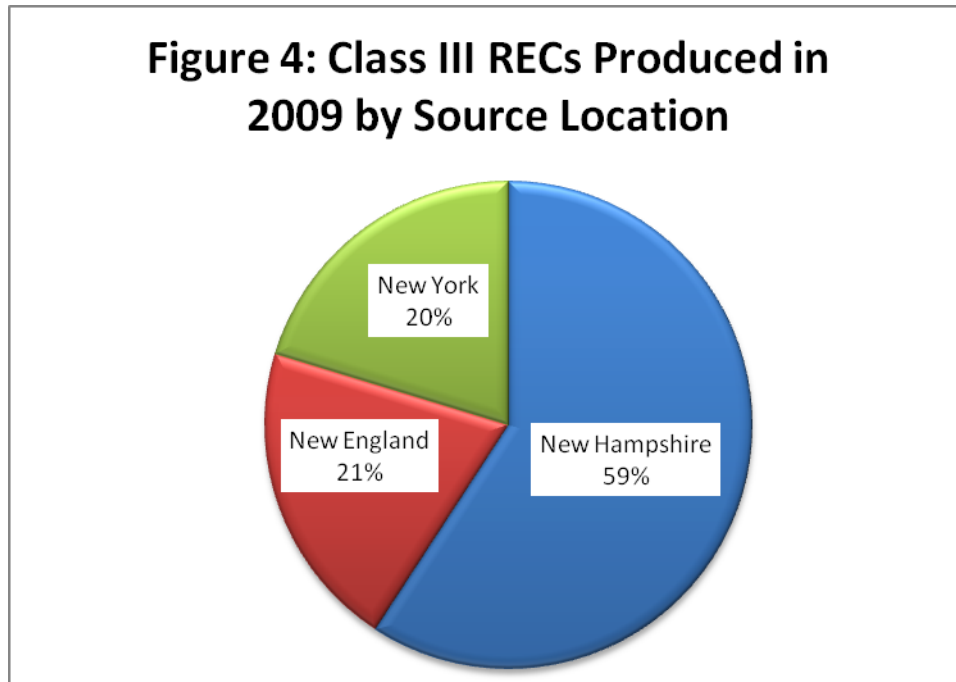


As Figure 3 shows, New Hampshire generators received approximately 80 percent of the revenue from the sale of New Hampshire Class I RECs. Electric service providers also purchased Class I RECs from out-of-state sources. For instance, eight percent of the total 2009 Class I RECs purchased originated from wind resources in Maine. Providers purchased 12 percent of Class I RECs from landfill gas and wind facilities in New York.



Electric service providers banked their Class II RECs in 2009 because the Class II REC requirement begins in 2010. Although over half of the New Hampshire Class II qualified facilities are located in New Hampshire, providers purchased less than one percent of actual 2009 Class II RECs from New Hampshire sources. Because the majority of New Hampshire facilities are smaller systems installed on residential sites and able to produce only fractional RECs, purchasers must aggregate the fractional RECs in order to trade or retire them at the NEPOOL.

New Hampshire electric service providers purchased over half of their 2009 vintage Class III RECs from New Hampshire wood burning facilities. The remaining Class III RECs purchases originated from landfill gas facilities in Rhode Island and New York. New Hampshire generators earned 59 percent of the estimated revenues from the sales of 2009 Class III RECs.



Electric service providers purchased roughly 79 percent of vintage Class IV RECs from non-New Hampshire sources. As a result, the majority of estimated Class IV REC revenues were earned by non-New Hampshire sources, as estimated below. The majority of ACPs paid into the REF resulted from a shortage in the supply of Class IV RECs.

Table 9: Estimated 2009 REC Revenues to Generators by Location

	NH	NE	NY	Total
Class I	\$1,220,356	\$135,708	\$179,904	\$1,535,968
Class II	\$455	\$46,690	\$0	\$47,145
Class III	\$7,318,150	\$2,760,410	\$2,333,700	\$12,412,260
Class IV	\$259,676	\$981,954	\$0	\$1,241,630
Total Revenues	\$8,798,637	\$3,924,762	\$2,513,604	\$15,237,003

Estimates based on the markets price of RECs reported by Evolution Markets.

Estimates assume 100 percent of transactions completed through market trades in 2009.

The majority of New Hampshire RECs acquired for RPS compliance were purchased from New Hampshire Class III sources, specifically 82 percent. Assuming that all 2009 REC trades were brokered through open market trades, not through long-term contracts, New Hampshire generators would have earned approximately \$8.8 million in total from New Hampshire REC sales, or 58 percent of all revenues from 2009 REC sales,⁷ while New England and New York generators would have earned 26 and 16 percent, respectively. Eighty two percent of the estimated 2009 generator revenues were from the sales of Class III RECs; the Class III RPS requirement is the largest of the three classes. The estimated revenues from Class I REC and Class IV RECs sales comprise 10 percent and 8 percent of the total revenues, respectively.

Renewable Energy Fund Proceeds

Public Service Company of New Hampshire (PSNH) and the majority of the competitive suppliers met the difference between Class IV REC acquisitions and the remainder of their Class IV obligations by making ACPs.⁸ If RECs had not been available on the market at a reasonable cost, electric service providers would have made ACPs of approximately \$19.7 million into the REF. However, because the electric service providers purchased or obtained RECs to meet a substantial portion of their RPS obligations, approximately \$1.34 million was deposited into the REF, consisting of approximately \$78,500 in Class III ACPs and about \$1.27 million in Class IV ACPs.

⁷ Since the majority of RECs are purchased through confidential contracts, this analysis assumed that all purchased were open market transactional at markets prices. In reality, the REC prices established in such contracts were likely at a different rate than the market price and may have resulted in different total revenues.

⁸ As of February 2, 2009, the 2009 inflation adjusted for Class I ACPs is \$60.92 per MWh and the inflation adjusted Class III and Class IV ACP is \$29.87 per MWh.

Table 10: 2009 Alternative Compliance Payments Paid into the Renewable Energy Fund

	Class I ACPs	Class III ACPs	Class IV ACPs	Total ACPS
Distribution Utilities				
Granite State Electric Company d/b/a National Grid	\$0	\$0	\$0	\$0
New Hampshire Electric Cooperative	\$0	\$0	\$0	\$0
Public Service Company of NH	\$0	\$0	\$951,598	\$951,598
Unitil Energy Systems, Inc.	\$0	\$0	\$0	\$0
Distribution Utilities' Total	\$0	\$0	\$951,598	\$951,598
Competitive Suppliers' Total	\$0	\$78,468	\$314,121	\$392,590
New Hampshire Total	\$0	\$78,468	\$1,265,720	\$1,344,188

Initial figures are subject to audit.

Beginning in 2010, electric service providers will have to acquire RECs associated with generation from solar powered facilities (Class II), equal to 0.04 percent of total retail sales. The Class I and Class III requirements increase to 1.0 percent and 5.5 percent of total retail sales, respectively. Class IV requirements remain at 1.0 percent of total retail sales. As with any compliance year, if electric service providers cannot meet these increased requirements by acquiring RECs, they will have to make ACPs into the REF, pursuant to RSA 362-F.⁹ Providers can also apply any banked RECs towards these requirements.

“Banking” of RECs and the Impact for Future Compliance Years

Pursuant to RSA 362-F:7, electric service providers may purchase RECs in excess of their requirements for a particular calendar year and hold or “bank” the RECs for future compliance periods. Table 11 provides a summary of banked RECs by electric service provider. In 2009, electric service providers banked approximately 40,000 Class I RECs, 1,000 Class II RECs, 31,000 Class III RECs and 2,500 Class IV RECs. These RECs can be used to meet RPS compliance requirements for future compliance years, thus reducing the amount of ACPs deposited into the REF. For example, the 2010 Class I ACP rate is \$60.93 per MWh and the use of banked RECs for compliance in lieu of making the ACPs will reduce deposits into the REF.

⁹ Due to no change in the Consumer Price Index from 2009 to 2010, the 2010 inflation adjusted ACP rates are almost identical to the 2009 ACP rates per MWh.

Table 11: RECs Banked for Future Compliance in 2009

	Class I	Class II	Class III	Class IV
Distribution Utilities				
Granite State Electric Company d/b/a National Grid	1,810	0	0	0
New Hampshire Electric Cooperative	11	195	9,522	1,152
Public Service Company of New Hampshire	33,772	781	0	0
Unitil Energy Systems, Inc.	931	0	2,578	827
Distribution Utilities' Total	36,524	976	12,100	1,979
Competitive Suppliers' Total	3,459	15	19,348	582
New Hampshire Total	39,983	991	31,448	2,561

A majority of the Commission-certified renewable energy facilities are also certified to produce RECs for other states' RPS programs. As a result, whether a certified facility will sell RECs to New Hampshire electric service providers depends on the New Hampshire REC market price relative to other states' market prices. For example, all of the New Hampshire Class III facilities (existing biomass and landfill methane gas) also qualify to receive Connecticut Class I RECs. Those generators may choose to sell RECs into the Connecticut market if the market price for Connecticut Class I RECs is higher than New Hampshire Class III RECs price, thereby restricting the supply of New Hampshire RECs. However, during the past year and a half, the price of Connecticut Class I RECs has dropped below New Hampshire Class III levels, causing suppliers to sell into the New Hampshire market.¹⁰

The market price for RECs is determined by the supply and demand for RECs in New Hampshire and New England. As is the case in New Hampshire, the demand for RECs in other states is determined by state legislative requirements for electric service providers to provide a minimum percent of their sales to customers from renewable energy sources. (See Appendix C for more discussion on the regional REC market.) Class I, II, III and IV sources that qualify in other states may sell RECs into these other markets.

In general, the New England REC markets have witnessed an increase in the supply of RECs as a result of investments in renewable energy in New England and New York. As a result, the prices for RECs associated with new renewable sources, such as New Hampshire Class I and Class II RECs, have fallen below Class III and IV REC prices. For instance, 2009 vintage Class I RECs fell from \$30 per MWh in 2009 to roughly \$15 per MWh during the spring of 2010. In comparison, the price of 2009 vintage Class III RECs have decreased slightly from approximately \$30 per MWh to around \$25 per MWh. Electric service providers responded to these lower prices by purchasing enough RECs to meet the 2009 RPS requirements and banking additional RECs for future compliance years. Market traders also report that they have not brokered any sales for Class IV RECs, indicating that there is a shortage.

The 2010 vintage RECs for all classes are currently trading at prices just shy of the prices discussed above. Such prices may not increase in the 2010 compliance year because of the

¹⁰ According to Evolution Markets, as of August 2010, 2010 vintage CT Class I RECs are currently trading at \$10.00 per MWh. The most recent bid and offer prices for New Hampshire Class III RECs are \$17.00 and \$20.00 per REC, respectively. Any trades would be at a price between the bid and offer prices.

increased supply of RECs, due to an increased number of approved facilities in 2010, as shown in Table 5. Although the RPS requirements increase every year, with the exception of the Class IV REC requirement, providers will likely meet these new requirements by using banked RECs and purchasing RECs at costs below the ACP amounts. It is likely that the shortage of Class IV RECs will be the primary source of REF funds in future compliance years.

Net Metered Facilities and Allowed Net Metered Capacity

The majority of the small residential solar powered and wind facilities supported by REF rebates participate in the electric distribution utilities' net metering programs. Each utility's total capacity of net metered facilities is listed in Table 12. The amounts of energy net-metered by each utility are will below the allowed net metered capacity per utility as set forth in RSA 362-A:9, I, with the total installed new metered capacity equal to only 4% of the allowed capacity.

Table 12: Total Net Metered Facilities, as of December 31, 2009

	# of Installs	Total Capacity (MW-DC)	Peak Load (MW)*	Share of State Coincident Peak Demand	Allowed Net Metered Capacity (MW)**
Granite State Electric Company d/b/a National Grid	35	0.111	189	9%	4
New Hampshire Electric Cooperative	122	0.503	124	6%	3
Public Service Company of NH	244	1.307	1,588	73%	37
Unitil Energy Systems, Inc.	22	0.122	268	12%	6
NH Total	423	2.043	2,169	100%	50

Source: FERC Form 1 and PUC Net Metering Annual Reports

* New Hampshire's Coincident peak for 2009 occurred on August 18 at 2:00 pm.

** Allowed net metered capacity is 50 megawatts multiplied by each utility's percentage share of the total annual coincident peak energy demand.

Conclusion

Over the past two years, New Hampshire's RPS appears to have spurred investments in renewable energy facilities in New Hampshire and other New England states (as well as New York state). Contrary to some predictions, RECs have generally been in abundant supply and electric service providers have therefore been able to comply with the bulk of RPS requirements without having to make ACP payments. In other words, the RPS law is working as intended.

As to the Renewable Energy Fund, funds received in future compliance years from ACPs will largely depend on REC market conditions and any changes to New Hampshire's RPS law. The unpredictability of ACP revenues makes it difficult for the Commission to budget funds for existing and new incentive programs and other renewable energy initiatives. Changes in REC availability from year to year and the market price of RECs will ultimately determine the Commission's capability to provide funding for renewable energy initiatives.

Appendices

Appendix A, Table 1: Projected RPS Obligation in MWh

Calendar Year	Total Retail Sales to Retail Customers (MWh)*				
	Class I	Class II	Class III	Class IV	
2008	0	0	379,014	54,145	
2009	52,553	0	472,974	105,105	
2010	106,367	4,255	585,017	106,367	
2011	215,286	8,611	699,680	107,643	
2012	326,804	16,340	708,076	108,935	
2013	440,968	22,048	716,573	110,242	
2014	557,825	33,469	725,172	111,565	
2015	677,422	33,871	733,874	112,904	
2016	799,810	34,278	742,680	114,259	
2017	925,037	34,689	751,593	115,630	
2018	1,053,155	35,105	760,612	117,017	
2019	1,184,214	35,526	769,739	118,421	
2020	1,318,267	35,953	778,976	119,842	
2021	1,455,367	36,384	788,324	121,281	
2022	1,595,567	36,821	797,784	122,736	
2023	1,738,923	37,263	807,357	124,209	
2024	1,885,489	37,710	817,045	125,699	
2025	2,035,323	38,162	826,850	127,208	

*2008 and 2009 figures are based on MWh Sales reported by the distribution utilities in the 2008 and 2009 FERC Form No. 1 Annual Reports and Commission annual reports. 2010 to 2025 figures assume 1.2 percent annual growth in sales.

Appendix B: NH Certified Facilities

Appendix B: Table 1: Facilities Certified to Produce NH RECs, as of September 30, 2010						
Docket	Facility Name	Total Gross Nameplate Capacity (MW)	Type	Location	NH Certification #	Effective Date to Produce RECs
	Class I Facilities					
08-109	Beaver Ridge Wind	4.50	Wind	ME	NH-I-08-014	September 2, 2008
08-142	Chaffee Landfill	6.40	LFG-Methane	NY	NH-I-08-019	November 10, 2008
10-039	Chautauqua Landfill	6.40	LFG-Methane	NY	NH-I-10-028	February 19, 2010
09-232	Clinton Landfill	4.80	LFG-Methane	NY	NH-I-09-061	November 19, 2009
09-147	Colebrook Landfill Gas Facility	0.80	LFG-Methane	NH	NH-I-09-040	September 18, 2009
08-167	Colonie Landfill	4.80	LFG-Methane	NY	NH-I-09-008	December 30, 2008
09-056	Crossroads Landfill	3.20	LFG-Methane	ME	NH-I-09-025	May 11, 2009
08-173	DANC Landfill	4.80	LFG-Methane	NY	NH-I-09-006	December 30, 2008
09-026	Fitchburg Landfill	4.80	LFG-Methane	MA	NH-I-09-016	February 13, 2009
09-233	Fulton Landfill	3.20	LFG-Methane	NY	NH-I-10-070	June 10, 2010
09-210	Gardner Landfill	1.00	LFG-Methane	MA	NH-I-10-058	May 18, 2010
08-158	High Acres Landfill 2*	6.40	LFG-Methane	NY	NH-I-09-002	December 10, 2008
09-125	High Sheldon Wind Energy Center	112.50	Wind	NY	NH-I-09-028	July 13, 2009
09-231	Hyland Landfill	4.80	LFG-Methane	NY	NH-I-09-060	November 19, 2009
09-008	Indeck	16.40	Biomass	NH	NH-I-10-033	April 6, 2010
08-105	Lempster Wind	24.00	Wind	NH	NH-I-08-012	August 29, 2008
09-237	Lowell Landfill	0.46	LFG-Methane	MA	NH-I-09-062	November 24, 2009
09-121	Madison County Landfill	1.60	LFG-Methane	NY	NH-I-09-027	June 22, 2009
09-132	Mark Richey Woodworking Wind Farm	0.63	Wind	MA	NH-I-09-030	July 27, 2009
08-143	Mill Seat Landfill	6.40	LFG-Methane	NY	NH-I-08-020	November 10, 2008
08-174	Modern Landfill	6.40	LFG-Methane	NY	NH-I-09-007	December 30, 2008
09-103	Nanticoke LFG**	0.00	LFG-Methane	NY	NH-I-09-037	August 11, 2009
09-082	New Milford Landfill	2.40	LFG-Methane	CT	NH-I-09-026	June 15, 2009
10-029	Orono Hydro**	2.78	Hydro	ME	NH-I-10-027	February 23, 2010
08-044	Schiller Station # 5	50.00	Biomass	NH	NH-I-08-006	July 28, 2008
08-175	Seneca Landfill*	6.40	LFG-Methane	NY	NH-I-09-011	December 30, 2008
08-042	Smith Hydro, J. Brodie**	17.60	Hydro	NH	NH-I-08-011	July 29, 2008
09-104	Springfield Power	0.00	Biomass	NH	NH-I-10-030	February 25, 2010
08-133	UNH CHP Plant*	7.90	LFG-Methane	NH	NH-I-09-003	December 23, 2008
08-129	UNH Power Plant*	4.60	LFG-Methane	NH	NH-I-09-004	December 23, 2008
09-046	Vergennes Hydro**	4.60	Hydro	VT	NH-I-09-018	March 9, 2009
09-240	Williams Stone	0.63	Wind	MA	NH-I-09-068	November 25, 2009
10-060	NHEC Class I Aggregation	0.03	Wind	NH	NH-I-10-031	
	Total Class I Capacity	321.23				

Class II Facilities						
08-025	Brockton Brightfield	0.46	Solar PV	MA	NH-II-08-002	March 6, 2008
08-128	Thule Corporation	0.32	Solar PV	CT	NH-II-08-018	October 21, 2008
08-122	Lee Company	0.31	Solar PV	CT	NH-II-08-017	October 16, 2008
08-165	Pilgrim Furniture	0.33	Solar PV	CT	NH-II-09-005	December 23, 2008
08-150	Essex Meadows	0.10	Solar PV	CT	NH-II-09-013	January 30, 2009
09-034	Aldi PV Project	0.50	Solar PV	CT	NH-II-09-017	February 24, 2009
09-064	Daymon PV Project	0.35	Solar PV	CT	NH-II-09-021	April 6, 2009
09-189	PSNH 789 Commercial St Manchester	0.05	Solar PV	NH	NH-II-09-048	September 21, 2009
10-145	Crimson Solar PV	0.50	Solar PV	MA	NH-II-10-073	June 25, 2010
10-157	Kirwan Enterprises facility	0.15	Solar PV	MA	NH-II-10-092	June 30, 2010
10-177	Toffolon Elementary School	0.06	Solar PV	CT	NH-II-10-093	June 28, 2010
10-179	Plainville High School	0.15	Solar PV	CT	NH-II-10-094	June 28, 2010
	BCC Class II Aggregation	1.27	Solar PV	MA	NH-II-10-001	
10-060	NHEC Class II Aggregation	0.41	Soalr PV	NH		
10-114	Berkshire Class II Aggregation	0.82	Solar PV	MA	NH-II-10-057	April 26, 2010
10-129	CT BJ's Solar Aggregation	0.17	Solar PV	CT	NH-II-10-099	July 14, 2010
10-156	Princeton Properties Solar Aggregation	0.45	Solar PV	MA	NH-II-10-091	June 24, 2010
Total Class II Capacity		6.40				
Class III Facilities						
08-024	Pinetree Bethlehem	17.10	Biomass	NH	NH-III-08-004	June 9, 2008
08-051	Pinetree Tamworth	23.80	Biomass	NH	NH-III-08-005	July 8, 2008
08-158	High Acres Landfill 1	3.20	LFG-Methane	NY	NH-III-09-001	December 10, 2008
08-176	Model City Landfill	5.60	LFG-Methane	NY	NH-III-09-009	December 30, 2008
08-175	Seneca Landfill	5.60	LFG-Methane	NY	NH-III-09-010	December 30, 2008
08-175	Seneca Landfill	5.60	LFG-Methane	NY	NH-III-09-010	December 30, 2008
08-101	Johnston Landfill	16.20	LFG-Methane	RI	NH-III-09-015	February 16, 2009
08-177	Ontario Landfill	5.60	LFG-Methane	NY	NH-III-09-012	February 19, 2009
08-147	Granby LFG	3.20	LFG-Methane	MA	NH-III-09-014	February 12, 2009
09-083	Turnkey I Landfill	3.20	LFG-Methane	NH	NH-III-09-022	April 30, 2009
09-043	Fall River Landfill	5.70	LFG-Methane	MA	NH-III-09-024	May 4, 2009
09-084	Turnkey II Landfill	6.20	LFG-Methane	NH	NH-III-09-023	June 17, 2009
09-103	Nanticoke LFG	2.60	LFG-Methane	NY	NH-III-09-038	August 11, 2009
09-149	Johnston Landfill Expansion - Phase I	2.50	LFG-Methane	RI	NH-III-09-041	August 20, 2009
09-150	Johnston Landfill Expansion - Phase II	6.40	LFG-Methane	RI	NH-III-09-042	August 20, 2009
09-104	Springfield Power	16.00	Biomass	NH	NH-III-10-029	February 25, 2010
Total Class III Capacity		128.50				

Class IV Facilities						
08-059	West Springfield	1.20	Hydro	MA	NH-IV-08-003	May 3, 2008
07-124	Benton Falls	4.47	Hydro	ME	NH-IV-08-001	January 1, 2008
08-068	Cocheco Falls	0.75	Hydro	NH	NH-IV-08-013	August 22, 2008
09-055	Centennial Island Hydro	0.64	Hydro	MA	NH-IV-09-020	March 18, 2009
09-012	Salmon Falls Hydro	1.20	Hydro	ME	NH-IV-09-019	March 31, 2009
09-192	Newport Hydro	4.00	Hydro	VT	NH-IV-09-049	October 9, 2009
10-079	Stillwater Hydro	1.95	Hydro	ME	NH-IV-10-043	April 1, 2010
10-080	Medway Hydro	3.44	Hydro	ME	NH-IV-10-044	April 1, 2010
08-053	Canaan***	1.10	Hydro	VT	NH-IV-08-007	August 27, 2008
08-053	Gorham***	2.15	Hydro	NH	NH-IV-08-008	August 27,2008
08-053	Hooksett***	1.60	Hydro	NH	NH-IV-08-009	August 27,2008
08-053	Jackman***	3.20	Hydro	NH	NH-IV-08-010	August 27,2008
08-123	North Gorham***	2.25	Hydro	ME	NH-IV-08-015	September 25, 2008
08-124	Bar Mills***	4.00	Hydro	ME	NH-IV-08-016	September 25, 2008
Total Class IV Capacity		31.95				

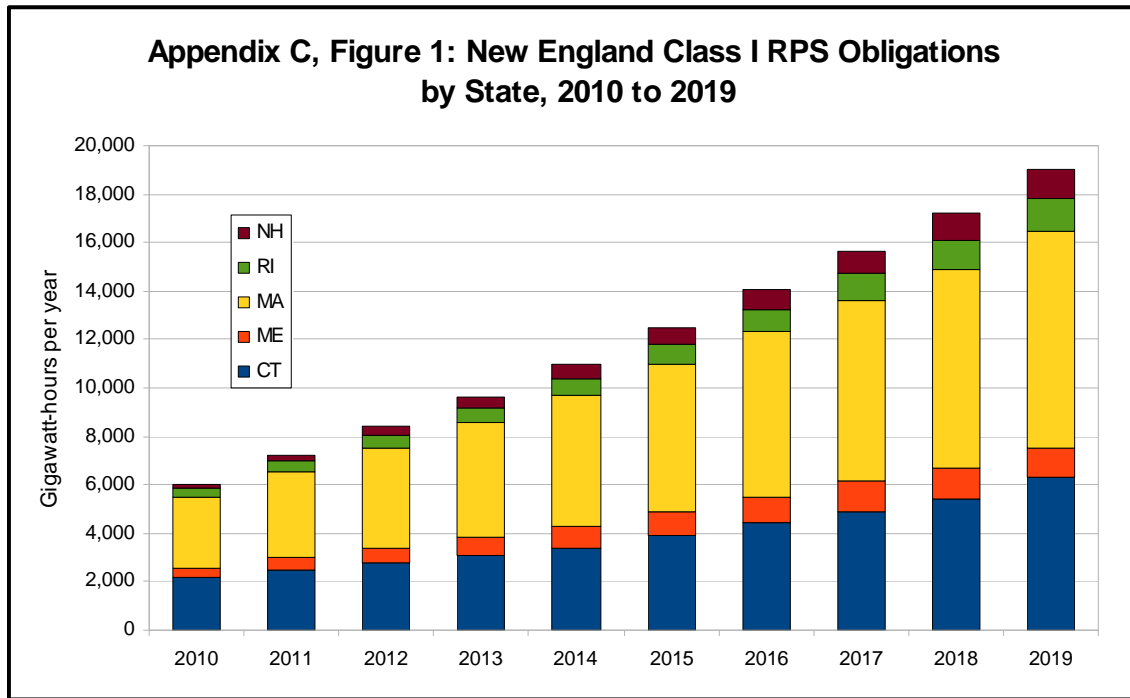
*Generation site includes multiple generation facilities.

** Only the electric output greater than the historical generation baseline is eligible to receive RECs.

***Per HB 229, (2009 N.H. Laws Ch. 86), six hydroelectric facilities were eligible to receive RECs for electricity only produced during the second half of 2008 and the first quarter of 2009. These facilities include the North Gorham and Bar Mills projects, owned by FPL Energy Maine Hydro, LLC, and the Canaan, Gorham, Hooksett, and Jackman hydroelectric facilities, owned by Public Service Company of New Hampshire.

Appendix C: New England RPS Obligations

Figure 1 shows the Commission's estimated growth in the demand for RECs in the five New England states that have similar, albeit not identical, mandates for new renewable energy generation. Those mandates include the Connecticut Class I, the Maine RPS, Massachusetts Class I and the Rhode Island Renewable Energy Portfolio. The gigawatt-hour (GWh) projections for New Hampshire's Class I and Class II obligations are the same figures used in Appendix A, Table 1. The forecasts for the other New England states are based on ISO-NE load growth projections.¹¹



Source: ISO-NE *CELT Report*, 2010

¹¹ The ISO-NE figures are from Tab 2, column R in the 2010 CELT Report at http://www.iso-ne.com/trans/celt/fsct_detail/2010/isone_fcst_data_2010.xls.