NH Renewable Portfolio Standard Review

A REPORT COVERING THE PERIOD
2008-2010

NH PUBLIC UTILITIES COMMISSION

EESE BOARD PRESENTATION
12/9/2011

RPS Background

- RPS requires electric utilities and competitive energy suppliers to purchase RECs equivalent to a % of annual retail electric sales
- RECs = Renewable Energy Certificates = 1 MWh
- 4 separate resource classes (new & existing)
- Eligible renewable energy = wind, solar, small hydro, biomass, etc. (that produce electricity).
- ACPs → REF → Rebate programs and RFPs

2011 RPS Review

- RPS Statute mandated a review with a report to the legislature, due November 1, 2011
- Review includes 9 categories for investigation:
  - Class requirements and resource supply adequacy
  - Addition of thermal or EE components
  - REF distribution
  - Alternative methods of RPS compliance; etc.
- Review process included 5 public workshops and dozens of written comments over 5 months

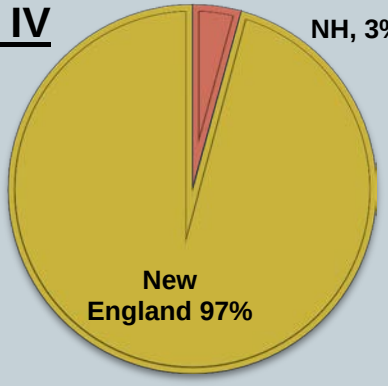
Key Findings: Resource distribution regional; REC supply adequate (except Class IV)

Class I : 38% of capacity in NH

	NUMBER OF GENERATORS				NAMEPLATE CAPACITY (MW)			
	NH	NE*	NY	Total	NH	NE*	NY	Total
Class I	13	6	10	29	108.8	10.4	157.3	276.5
Class II	97	59	0	156	0.83	7.05	0	7.88
Class III	7	6	6	19	68.7	36.6	28	133.3
Class IV	1	12	0	13	0.75	26.1	0	26.85
Total	118	83	16	217	179.1	80.2	185.3	444.5

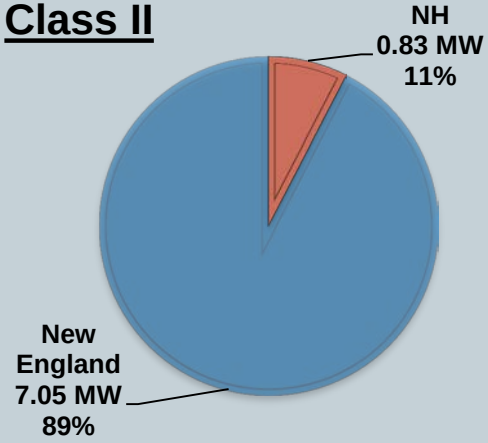
*Rest of New England (other than NH)

Class IV

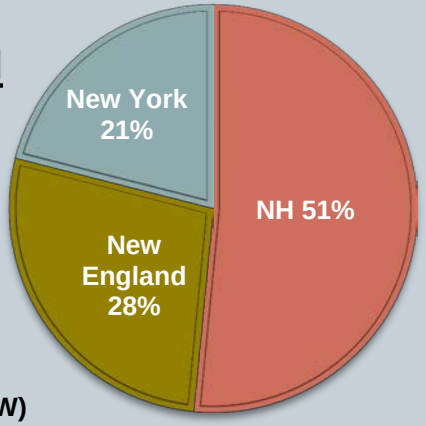


NH Facilities: 1 (.75 MW)
NE Facilities: 12 (26 MW)
NY Facilities: 0

Class II



Class III



NH Facilities: 7 (69 MW)
NE Facilities: 6 (37 MW)
NY Facilities: 6 (28 MW)

Key Findings: RPS costs are low per kWh

- Average 2010 RPS cost: $0.0015/kWh
  ($0.75/month if you use 500 kWh, on average)

Total Compliance Costs (RECs & ACPs) (may include some small REC banking costs)	Default Service Providers (Utilities)	Competitive Energy Suppliers (CEPs)	Total
2008 costs	$11,217,163	$647,911	$11,865,074
2009 costs	$13,212,989	$3,227,370	$16,440,359
2010 costs	$12,620,489	$5,981,067	$18,601,556
Total costs 2008-2010	$37,050,641	$9,856,348	$46,906,988
2008 retail sales (MWh)	9,988,926	561,615	10,550,541
2009 retail sales (MWh)	8,377,043	1,755,143	10,132,186
2010 retail sales (MWh)	7,556,408	3,075,349	10,631,757
Total retail sales 2008-2010 (MWh)	25,922,377	5,392,107	31,314,484
Average cost/kWh 2008	$0.0011	$0.0012	$0.0011
Average cost/kWh 2009	$0.0016	$0.0018	$0.0016
Average cost/kWh 2010	$0.0017	$0.0019	$0.0017
Average cost/kWh '08-'10	**$0.0014**	**$0.0018**	**$0.0015**

Key Findings: Compliance met with mostly RECs

- Utilities met 98% of their compliance with RECs in 2010
- CEPs met 67% of compliance with RECs in 2010

RPS COMPLIANCE METHODS	2008	2009	2010
DEFAULT SERVICE LOAD BY REGULATED UTILITIES			
Utility RPS Obligation (MWh)	399,557	506,825	569,753
Utility REC Purchases (MWh)	250,304	473,274	518,455
Utility REC Costs	$ 6,196,784	$ 12,362,463	$ 11,889,852
Average REC Cost	$ 25	$ 26	$ 23
Utility ACPs (MWh)	149,254	36,777	10,083
Utility ACP Costs	$ 4,286,560	$ 951,598	$ 301,179
Average ACP Cost	$ 29	$ 26	$ 30
% compliance met with RECs*	**61%**	**92%**	**98%**
% compliance met with ACPs	**37%**	**7%**	**2%**
COMPETITIVE ELECTRICITY SUPPLIER (CEPS)			
CEPs RPS Obligation (MWh)	22,465	105,309	231,881
CEPs REC Purchases (MWh)	17,813	113,542	140,192
CEPs REC Costs	$ 455,093	$ 2,830,679	$ 3,646,668
Average REC Cost	$ 26	$ 25	$ 26
CEPs ACPs (MWh)	6,712	13,269	75,825
CEPs ACP Costs	$ 192,818	$ 396,691	$ 2,334,399
Average ACP Cost	$ 29	$ 30	$ 31
% compliance met with RECs*	**90%**	**87%**	**67%**
% compliance met with ACPs	**30%**	**13%**	**33%**

Key Findings: RECs trending low; ACPs unpredictable

- REC prices trending low
- CEPs pay higher REC prices, on average, than utilities
- Class III and IV ACPs generate most REF $$

	2008	2009	2010
Average Default Service Provider (Utility) REC Costs			
Class I	$ -	$ 29.59	$ 20.48
Class II	$ -	$ -	$ 47.58
Class III	$ 26.58	$ 26.73	$ 23.00
Class IV	$ 16.45	$ 18.87	$ 23.94
Average Competitive Electricity Provider REC Costs			
Class I	$ -	$ 31.82	$ 16.90
Class II	$ -	$ -	$ 107.00
Class III	$ 25.70	$ 23.94	$ 28.29
Class IV	$ 23.00	$ 26.10	$ 25.97

	Total	Class I	Class II	Class III	Class IV
2008	$4,483,917	$0	$0	$4,286,270	$ 197,647
2009	$1,344,188	$0	$0	$ 78,468	$1,265,720
2010	$2,625,499	$26,321	$58,884	$1,538,783	$1,001,511
Total	$8,453,604	$26,321	$58,884	$5,903,521	$2,464,878

Public stakeholder feedback

- Public Stakeholders want:
  - TLC: transparency, longevity and consistency
  - Flexibility
  - Mechanisms that support NH energy resources
- A streamlined method for small generators to create and sell RECs is critical
  - <1 MW solar REC certified while 2.35 MW solar is net-metered
- Some stakeholders want thermal energy and/or CHP included
- Public Stakeholders do not want EE in the RPS

NH Resources: Biomass

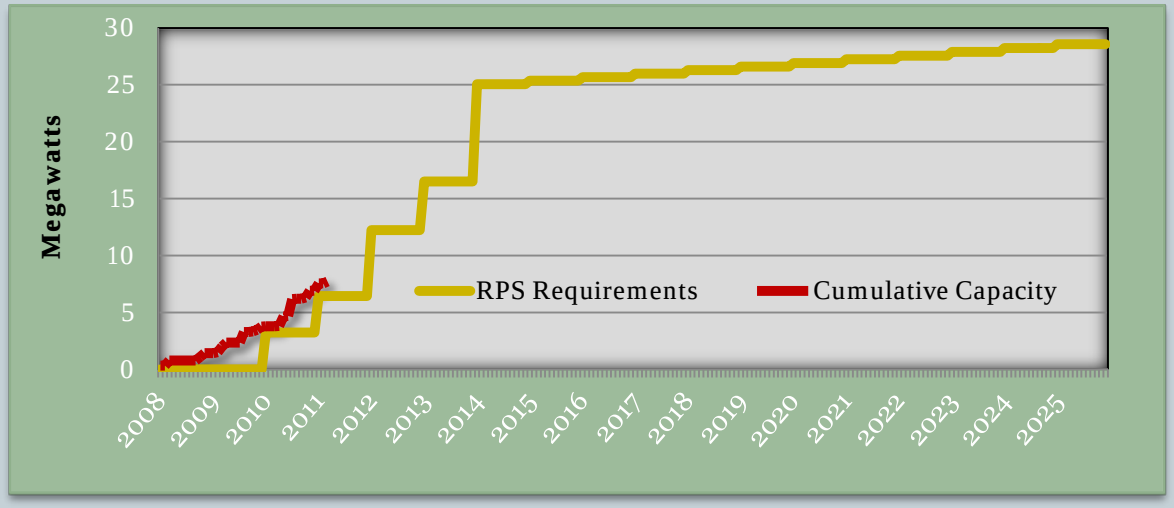
- Changes in MA RPS may exclude significant regional biomass resources from selling into the MA RPS.
- Class III REC prices near (~$25) ACP in 2010, recent data suggests RECs now trending lower; 6.5% peak requirement reached this year.
- Significant uncertainty on future of Class III supply/prices.
- Large potential for thermal biomass and/or CHP

NH Resources: Hydropower

- New hydro currently not eligible under NH RPS
- Class IV has 1 NH facility (Cocheco Falls, Dover NH)
- Class IV 1% requirement peaked in 2009
- Currently hundreds of undeveloped potential micro-hydropower sites in NH (< 1 MW)
  - DOE: 50+ undeveloped sites <100 kW and 38 sites >100 kW and<1 MW
  - Need to balance ecosystem, recreational, economic development and energy goals accordingly

NH Resources: Solar & Wind

- Class II for solar electric: supply tracking demand
  - Strong consumer demand & economic development component
  - Need for rule clarification on allowed PPAs under rebate programs



- Class I wind in NH: Lempster (2008, 24 MW)
  - Pending: 281 MW over 7 projects in ISO-NE Interconnection Queue

Commission Recommendations

- **Recommendation**: Given the widely recognized value in New Hampshire's hydropower resources, keep Class IV in place, but study the implications of no longer requiring fish passage if FERC has exempted a facility from installing fish passage. **ALSO,** study effects of including microhydro resources in Class I.
- **Recommendation:** Clarify the extent of the RPS obligations beyond 2025, specifically, whether or not the 2025 obligations continue indefinitely absent further legislative change.
- **Recommendation:** Amend RSA 362-F:6 to allow the PUC to devise alternative method(s) of tracking or accounting for Class II RECs, such as engineering production estimates, for systems under 5 kW in gross nameplate capacity.
- **Recommendation:** Require self-suppliers to comply with all RPS supplier requirements for RECs corresponding to their load. Clarify the definition of provider of electricity under RSA 362-F:2, XIV to include customers who meet their retail load through direct purchases from the wholesale market.
- **Recommendation:** Study ways in RPS could be expanded to include pure thermal renewable resources.
- **Rule Change:** Clarify Puc 2507 to allow third-party owners to receive REF incentive payments.

Questions?

For the full report:

www.puc.nh.gov

(Link is on the homepage)

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