



## MASSACHUSETTS RENEWABLE ENERGY PORTFOLIO STANDARD SUMMARY

**A. SUMMARY:** The renewable energy portfolio standard (RPS) was created in Massachusetts as part of legislation restructuring the electric utility industry. The RPS specifies that 1 percent of electricity be generated from renewable sources in 2003, with the percentage increasing by 0.5 percent per year through 2009. Thereafter, the annual percentage increase is 1 percent per year, until suspended by the Massachusetts Division of Energy Resources (DOER). Compliance is achieved through the acquisition of renewable energy certificates that are issued and tracked through the New England Generation Information System (NE-GIS). Obligated electric service providers may also fulfill their annual requirements by making alternative compliance payments to a Renewable Energy Fund. Monies collected through the fund will be used to support new renewable energy development.

### **B. AUTHORIZING LEGISLATION/REGULATION**

- 1. Part of Broader Energy Package?** Yes. Part of [a restructuring package adopted in 1997](#).
- 2. Legislative/Regulatory Intent:** From purpose section of 1997 restructuring law – Electric competition will encourage innovation, efficiency, and improved service from all market participants; competitive markets in generation should (i) provide electricity suppliers with the incentive to operate efficiently, (ii) open markets for new and improved technologies; to ensure that energy conservation policies, activities, and services are appropriately funded and available throughout the commonwealth.
- 3. Applicable Legislation/Regulation:**  
11/97 - [M.G.L. ch. 25A, sec. 11F](#) (Ch. 164 of the Acts of 1997)
- 4. Date Enacted:** November 19, 1997
- 5. Date Effective:** No effective date specified. Implementing regulations were adopted on April 26, 2002, and first year of compliance with the annual targets was 2003.

### **C. RULEMAKING**

- 1. Implementing/rulemaking Authority:** Massachusetts Division of Energy Resources (DOER)
- 2. Rulemaking Completed to Date:**  
4/02 – MA DOER adopts final regulations, [225 CMR 14.00](#)

5/03 – MA DOER issues [“Guidance for Retail Electricity Suppliers on the Use of NEPOOL-GIS-SUB-Accounts for the purpose of Documenting Massachusetts RPS Compliance”](#)

Guidance updated in [May 2004](#) (page ii), and again in [May 2005](#) (page ii)

10/05 – MA DOER issues [“Policy Statement on the RPS Eligibility of Retooled Biomass Plants”](#), which responds to the inquiry on the definition of ‘low-emission, advanced biomass power conversion technologies.

2/06 – MA DOER issues [“Guideline for Retail Electricity Suppliers on the Determination of Sales to End-Use Customers for Calculating the Annual RPS Obligation”](#)

10/07 – MA DOER adopts revised RPS regulations, [225 CMR 14.00](#)

11/07 – MA DOER issues [“Guideline on the RPS Eligibility of Biomass Generation Units”](#)

#### D. TARGETS AND TIMETABLES

1. **Overview:** Retail electricity providers subject to the restructuring legislation are required to utilize new renewable energy sources for at least 1 percent of the power they sell in 2003, increasing to 4 percent by 2009. After 2009, the minimum standard shall increase by 1 percent per compliance year until the DOER suspends the annual increase. At no time shall the minimum standard decrease below the percentage in effect at the time a suspension is implemented. Following a suspension, DOER, at its discretion, may reinstitute annual increases of one percent.

#### 2. Schedule

Year	Percent Renewable Generation Requirement
2003	1.0 %
2004	1.5 %
2005	2.0 %
2006	2.5 %
2007	3.0 %
2008	3.5 %
2009	4.0 %
2010 (and thereafter)	+ 1% over previous year (unless otherwise suspended by the DOER)

3. **Treatment of Existing Capacity:** Eligible electricity must be produced by a unit designated by DOER as a new renewable energy generator. It must have a commercial operation date after December 31, 1997, unless the generation unit

receives a vintage waiver. Systems that meet all qualifications but were installed before December 31, 1997 may qualify as a new renewable generation unit under the vintage waiver provision. The portion of electrical energy output of qualifying vintage units is that amount greater than the average historical generation rate from 1995-1997.

**4. Sunset Provisions:** None

**E. DEFINITION OF ELIGIBLE RESOURCES AND TECHNOLOGIES**

**1. Eligible Resources:**

- Solar photovoltaic or solar thermal electric energy;
- Wind energy;
- Ocean thermal, wave or tidal energy;
- Fuel cells using an eligible new renewable fuel (defined as an eligible biomass fuel, landfill or anaerobic digester methane gas, hydrogen derived from such fuels or hydrogen derived using the electrical output of a renewable generation unit, but not hydrogen derived from ineligible fuels.);
- Landfill methane gas and anaerobic digester gas, provided that such gas is collected and conveyed directly to the generation unit without use of facilities used as common carriers of natural gas;
- Low-emission, advanced biomass power conversion technologies using an eligible biomass fuel. Eligible biomass fuel is defined as “fuel sources including brush, stumps, lumber ends and trimmings, wood pallets, bark, wood chips, shavings, slash and other clean wood that are not mixed with other solid wastes; agricultural waste, food material and vegetative material as those terms are defined, or may subsequently be defined, by the Department of Environmental Protection (DEP) at 310 CMR 16.02; energy crops; biogas; organic refuse-derived fuel that is collected and managed separately from municipal solid waste; or neat biodiesel and other neat liquid fuels that are derived from such fuel sources.”
  - a. The DOER shall set forth in [Guidelines](#) low-emission eligibility criteria which will become effective on their date of issuance. Any emission eligibility criteria in subsequently revised Guidelines shall become effective 24 months from their date of issuance.
  - b. A generation unit with a commercial operation date after December 31, 1997, that is required to obtain an air permit in its jurisdiction, must possess a valid air permit and must demonstrate to the satisfaction of the DOER that the emission rates of the unit do not exceed limits set forth in the Guidelines that are applicable for the date on which the DOER receives the unit's statement of qualification application.
  - c. A generation unit with a vintage waiver that is required to obtain an air permit in its jurisdiction must possess a valid air permit and must demonstrate to the satisfaction of the DOER that the emission rates of the unit do not exceed limits set forth in the Guidelines that are applicable for the date on which the DOER receives the unit's statement of qualification

application.

- d. A generation unit that is not required to obtain an air permit in its jurisdiction must demonstrate to the satisfaction of the DOER that its emissions are consistent with criteria set forth in the Guidelines that are applicable for the date on which the DOER receives the unit's statement of qualification application.
  - e. In the case of a generation unit for whose size, type, or fuel the Guidelines do not provide applicable emission limits, the DOER will determine appropriate limits in consultation with the DEP.
- Co-firing of an eligible biomass fuel is allowed under the RPS providing the entire generation unit meets the requirements of a low emission, advanced biomass power conversion technology, including emission rates that are consistent with rates prescribed by DEP for comparably fueled generation units. Pile burn, stoker combustion or similar technologies do not constitute an advanced biomass conversion technology.

- 2. Special Incentives/Exclusions:** Though recognized as renewable generation units, MSW (defined as waste-to-energy that is a component of conventional municipal solid waste plant technology in commercial use) and hydro are considered mature technologies and do not qualify as a “new” renewable.

Pile burn, stoker combustion or similar technologies are explicitly excluded as an advanced biomass conversion technology.

- 3. Treatment of Self Generation:** Eligible customer-sited or off-grid units located in the state may qualify under the RPS. Generation units whose metered data is not offered through the ISO-NE Market Settlement System may qualify as a new renewable generation unit provided the generation unit meets certain eligibility requirements, including use of a “utility-quality” meter and adequate plans for reporting (See 225 CMR 14.05. 4), and uses eligible resource to generation..

- 4. Rules Governing Location of Generating Facilities:** Any eligible renewable generation within the ISO-NE service area qualifies for the RPS, with the exception of behind the meter (customer-sited) or off-grid renewable generation units, which must be located within the state. Renewable energy generated outside the ISO\_NE area is eligible if it is delivered in the ISO-NE service area on an hourly matching basis, and meets other certain qualifications.

- 5. Eligibility of Green Pricing:** Renewable electricity whose green attributes have been sold under a green pricing program are ineligible for the RPS.

## **F. COVERED UTILITIES**

- 1. Covered utilities:** RPS requirements apply to all investor owned retail electricity suppliers—the same retailers that are subject to the provisions of the restructuring

legislation. A municipal utility is exempt so long as it does not open its territory to competition.

2. **Share of state sales/capacity/delivered power:** ~ 86 percent of state electricity sales in 2006.
3. **Apportionment of obligation among utilities:** The obligation for use of renewable generation is apportioned among retail, competitive providers based on their respective market shares.
4. **Exemptions by customer class:** No

## **G. COST AND CONTRACT PROVISIONS**

1. **Cost Cap for Retailers:** Suppliers who choose not to or are unable to purchase sufficient renewable energy credits to meet their RPS requirements must make a specific payment per megawatt-hour (set at \$50 in 2003, and adjusted annually for inflation). As a result, the Alternative Compliance Payment (ACP) serves as a de facto cost cap for retailers. ACP monies will be used to advance renewable energy development in the state.
2. **Cost Cap for Consumers:** NA
3. **Cost Recovery Mechanism:** All costs may be included in the rate base.
4. **Supply Contract Requirements:** None specified.
5. **Special Funds:** Monies collected through the state's system benefits fund, which is under control of the Massachusetts Technology Collaborative, Renewable Energy Trust, are being used to stimulate RPS-eligible renewable energy through a variety of mechanisms, including offering guaranteed contracts or options for RECs to various developers on an open solicitation basis. For more information, see the MTC website at <http://www.masstech.org/renewableenergy/index.htm> and <http://www.masstech.org/renewableenergy/mgpp.htm>. In addition, monies collected through the RPS alternative compliance payment mechanism are also directed to the Renewable Energy Trust Fund.

## **H. COMPLIANCE AND ENFORCEMENT**

1. **Certification, Tracking and Trading Mechanism[s]:** The New England Generation Information System (NE-GIS), which includes a generation information database and certificate system, operated by the New England Power Pool, accounts for generation attributes of electrical energy consumed within New England, including Massachusetts (See <http://www.nepoolgis.com/> for more information). RECs are traded on the basis of a market-priced, bid-based exchange. Eligible renewable resources must have RECs issued by the NE-GIS. Retail electric suppliers must demonstrate compliance by

acquiring the appropriate number of NE-GIS RECs that meet the new renewable generation attributes criteria. RECs may not be double counted.

A REC is equivalent to the renewable generation attributes of 1 megawatt-hour of electricity that is derived from an eligible new renewable generation unit. The renewable generation attribute is defined as the generation attribute of the electrical energy output of a specific generation unit that derives from the unit's production of renewable generation. Generation attribute is defined as a non-price characteristic of the electrical energy output of a generation unit including, but not limited to, the unit's fuel type, emissions, vintage and RPS eligibility. Therefore, RECs include all of renewable energy and environmental attributes associated with the renewable energy generation.

Though it is not specified in either the statute or DOER regulations, it appears that REC ownership is given to the respective owner of each renewable energy generation unit.

- 2. Flexibility Mechanisms:** The RPS includes an early compliance provision for retail electricity providers. In addition, retailers may bank compliance RECs or satisfy the compliance requirement with alternative compliance payments.
- a. **Early Compliance:** A retail electricity supplier was permitted to use new renewable generation attributes produced during calendar year 2002 for compliance in the first compliance year (2003).
  - b. **Banked Compliance:** A retail electricity supplier may use new renewable generation attributes produced in one compliance year for compliance in either or both of the two subsequent compliance years, provided that the retail electricity supplier is in compliance with the RPS for all previous compliance years, and that (1) the RECs were in excess of the new renewable generation attributes needed for compliance in the year in which they were generated, (2) the excess attributes have not previously been used for RPS compliance; and (3) the banked compliance RECs do not exceed 30 percent of the attributes needed by the retail electricity supplier for compliance in the year they were generated.
  - c. **Alternative Compliance:** A retail electricity supplier may meet its RPS obligations (in whole or in part) for any compliance year by making an ACP. The ACP rate was set at \$50 dollars per MWh for Compliance Year 2003, and in each subsequent compliance year, the DOER is required to adjusted the rate up or down according to the previous year's Consumer Price Index. The adjusted ACP rate for 2008 is \$58.58 per MWh. ACP funds will be used to promote commercial development of new renewable generation units. ACP monies are directed to the MTC Renewable Energy Trust, which also administers the state's system benefits charge renewable energy funds.

**3. Penalties, Procedures, Powers, and Sanctions:** If a retail electricity supplier does not comply with either the RPS or associated reporting requirements, the DOER will issue a public notice of the deficiency, will require the retailer to submit a 3 year plan detailing how future requirements are to be met and can refer the retailer to the Department of Telecommunications and Energy Licensure, which can take further action, including license revocation under 220 CMR 11.07 (4) (c) (1).

In addition, upon reasonable notice to a retail electricity supplier or new renewable generation unit owner or operator, the DOER may conduct audits, which may include inspection and copying of records and/or site visits to a new renewable generation unit or a retail electricity supplier's facilities.

**4. Treatment of Emissions Allowance or reduction credits:** Not specified.

**5. Escape Clauses:** None

## I. ADMINISTRATION

**1. Administering Entities, Duties, Powers, and Contact Information:** The DOER administers the RPS. The Massachusetts Department of Telecommunications and Energy has some responsibility for administering non-compliance penalties. The MTC Renewable Energy Trust is responsible for administering ACP funds.

Massachusetts Division of Energy Resources  
100 Cambridge Street, Suite 1020  
Boston, MA 02114  
Phone: (617) 727-4732  
Web site: <http://www.state.ma.us/doer/>

Massachusetts Department of Telecommunications and Energy  
One South Station  
Boston, MA 02110  
Phone: (617) 305-3500  
Web site: <http://www.mass.gov/dte/>

MTC Renewable Energy Trust  
75 North Drive  
Westborough, MA 01581  
Phone: (508) 870-0312  
Web site: <http://www.mtpc.org/>

## J. REPORTING REQUIREMENTS and PROGRAM STATUS

**1. Reporting Requirements for Retailers:** Each retail electricity supplier must submit an annual compliance filing with the DOER no later than the first day of July of the

subsequent compliance year.

- 2. Reporting Requirements for Administrative Entities:** The DOER produces an annual renewable energy resource report that summarizes information submitted by retail electric suppliers in their annual compliance filing. Annual RPS Compliance Reports are now available for [2006](#), [2005](#), [2004](#), and [2003](#).

No later than December 31, 2007, the DOER shall establish the annual one percent increase, if any, in the minimum standard for each compliance year from 2010 through 2014.

- 3. Cost Information:** No comprehensive study on the actual costs of the RPS has been completed to date. However, [Evolution Markets](#) tracks the average price of RECs being transferred in the market, and their data shows that RECs have been generally selling at or just below the annual ACP price in the first three compliance years.

In addition, La Capra Associates and Sustainable Energy Advantage released a [Massachusetts Renewable Portfolio Standard Cost Analysis Report](#) in December 2000. The analysis was updated in [December 2002](#).