

## Types of Renewable Energy Credits in New England: A Summary

Public Service Department

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Renewable Portfolio Standards in all five other New England states use Renewable Energy Credits (RECs) for compliance. These RECs, which are each equivalent to 1MWh generated from a renewable resource, are registered by regional generators in the NEPOOL Generator Information System (NEPOOL GIS). The NEPOOL GIS tracks the characteristics of each generator in order to determine which “classes” of which states’ RPSes would be met by production associated with the REC.

Because of the particular characteristics from the generator from which it was created, a given REC from one generator might count in one state but not in another. The generator doesn’t need to declare in advance where their REC will be used; instead the utility who owns the REC (having acquired it from the generator or another market participant, and recorded that ownership in the GIS) uses the GIS tracking system to demonstrate to their regulators that they hold the requisite number of RECs that satisfy that state’s requirements.

When a REC is used by a utility to meet its obligation, or otherwise held and not sold to someone else, it is considered “retired.” Vermont utilities currently retire some RECs (which they have acquired either by generating or purchasing renewable power or by buying them separately) and sell others.

Every New England RPS has at least two targets, each of which can be met only by defined classes of eligible generators; the terminology and eligibility criteria vary by state. Some RECs are commonly referred to as “Class 1” RECs. These are typically RECs produced by renewable generators that came online (or in some cases were upgraded) after some specified date. This part of the RPS typically has a rising requirement, expressed as a % of retail sales (in energy units, like megawatt-hours). For example, in Massachusetts this class rises at 1% per year from 9% in 2013 to 25% in 2030.

Eligibility requirements and utility obligations for each class are generally tailored to meet particular policy objectives. “Class 1” requirements usually serve the policy purpose of requiring increased development of new renewable generators in the region, while other tiers can support continued operation of existing generators, generators of particular size, or particular technologies. There can also be “carve-outs” which require that portions of a class obligation be met with particular technologies (e.g. solar PV). The attached table summarizes the eligibility of different REC sources for inclusion in each class in each New England state.

A few examples of unique eligibility and requirements driven by policy objectives:

- Connecticut allows fuel cells to count in two of their tiers, regardless of fuel; this helps to support their in-state fuel cell industry. Other states allow fuel cells, but only if they are run on renewable fuel.
- Maine Class II includes older plants at a fixed level of 30% of sales; this supports continued operation of existing renewable plants, particularly hydroelectric plants.

Generally speaking, the cost/value of RECs in any given class reflects the balance between supply and the policy-driven demand for that tier. When supply is close to or lower than demand, REC prices rise to reflect scarcity; this provides an economic incentive to develop more supply. There remain some RECs (such as those for most large and older hydroelectric generation) that don't meet any of the New England states’ current RPS class definitions; these RECs tend to be very inexpensive because supply far exceeds demand.

	Tier	Target	Target Year	Eligible Technologies	ACP Rate	Vintage Requirement
Connecticut	1	20.0%	2020	Solar, wind, fuel cells, geothermal, landfill methane, anaerobic digestion, ocean, certain run of river hydro, certain biomass. End user DG also qualifies.	\$55/MWh	hydro post 7/1/03; otherwise none
	2	2.0%	2010	Trash to energy, certain biomass not in Class I, older run of river hydro		none
	3	4.0%	2010	Certain customer sited CHP, EE and load management programs outside of EE charge, waste heat recovery systems.		post 1/06
Massachusetts	1	25.0%	2030	PV*, solar thermal, wind, ocean, fuel cells w/ renewables, landfill gas, certain new hydro, certain incremental improvements to hydro, certain biomass, ag crops or vegetative material, geothermal, biogas, algae, marine.	\$66.16/MWh (2014, adjusted annually by CPI).	post 12/97
	1-Solar	Initially 400MW; now 1600 MW (DC)	2020	Two separate carve outs within Class I RPS, on MW basis as directed to the left. Solar PV 6 MW DC or less	\$523/MWh for first, \$375/MWh for second.	post 12/09 for first carve out, post 12/12 for second.
	2	3.6%	2020	Existing systems operating before 1998 in a number of similar technologies as Class I.	\$27.16/MWh (2014 adjusted annually for CPI)	pre 1/98
	2-Waste	3.5%	2020	Waste energy (from municipal solid waste)	\$10.86/MWh (2014 adjusted annually for CPI)	pre 1/98
Maine	1	10.0%	2017	Solar, wind, fuel cell, tidal, geothermal, hydro, biomass - (all less than 100MW). PURPA eligible projects. New wind may exceed 100MW	\$66.16/MWh in 2014 adj by CPI	post 9/05
	2	30.0%	2017	Existing renewables. Municipal Solid waste with recycling. Wind may exceed 100MW	none	none
New Hampshire	1	15% (including thermal % below)	2025	New Renewable. Wind, hydrogen from biomass or landfill, ocean, methane, geothermal post 12/12, solar thermal post 12/12, certain biomass, solar electric not used for Class II, incremental new production over an historical baseline from certain biomass, methane, and hydro, upgrades to class III or IV sources	\$55.37/MWh in 2014; adj. annually by 1/2 CPI.	post 12/05
	1-Thermal	2.0%	2025	The NH thermal carve out is a portion of the Class I requirement, not additional. Includes "useful thermal energy" that can be metered and for which fuel or electricity would be consumed.	\$25.17/MWh in 2014; adj. annually by 1/2 CPI.	post 12/12
	2	0.3%	2025	New solar	\$55.37/MWh in 2014; adj. annually by 1/2 CPI.	post 12/05
	3	8.0%	2025	Existing biomass, methane up to 25 MW	\$31.93/MWh in 2014; adj. annually by CPI. (\$45/MWh 2015-2017)	pre 1/06
	4	1.5%	2025	Existing small hydro up to 5 MW	\$26.86/MWh in 2014; adj. annually by CPI.	pre 1/06
Rhode Island	New	14.0%	2019	Direct solar radiation, wind, ocean, geothermal, hydro up to 30MW, certain biomass, fuel cells using renewables.	\$66.16/MWh in 2014; adj. annually by CPI.	post 12/97
	New or Existing	2.0%	2013	Direct Solar Radiation, Wind, ocean, geothermal, hydro up to 30MW, certain biomass, fuel cells using renewables		pre-1/98