2022 Annual Compliance Report

Executive Summary

Renewable Energy Portfolio Standard (RPS)
Alternative Energy Portfolio Standard (APS)
Clean Peak Energy Standard (CPS)
Clean Energy Standard (CES)

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Executive Summary

The Commonwealth's different renewable portfolio standard regulations require the Massachusetts Department of Energy Resources (DOER) to prepare an annual report on the status of compliance with each of the different renewable portfolio standards. DOER oversees both the implementation of and compliance with all the Commonwealth's renewable portfolio standards. This Executive Summary of the 2022 Annual Compliance Report is accompanied by an Excel workbook that includes the required data associated with compliance.

The Commonwealth's different renewable portfolio standard regulations require Massachusetts retail electricity suppliers to obtain, each year, a certain percentage of their retail customers' electricity supply from resources qualified under each portfolio standard. These requirements do not apply to municipal light plants.

The Renewable Energy Portfolio Standard (RPS) is a statutory obligation created by the Electricity Restructuring Act of 1997 and initiated by regulations in 2002. The statute was first revised by the Green Communities Act of 2008, which identified the original RPS as Class I, added a second class of RPS, Class II, and created the Alternative Energy Portfolio Standard (APS). The RPS and APS statutes were further modified by the Competitively Priced Electricity Act of 2012,[1] the Renewable Thermal Act of 2014,[2] the Energy Diversity Act of 2016,[3] the Act to Advance Clean Energy of 2018[4], and Chapter 8 of the Acts of 2021.[5]

The Clean Peak Energy Standard (CPS) was created in August 2018 under An Act to Advance Clean Energy[4] and provides incentives to clean energy technologies that can supply electricity or reduce demand during seasonal peak demand periods.

The Clean Energy Standard (CES), also introduced in 2018, complements the other portfolio standards to ensure that the greenhouse gas emission reductions set by the Commonwealth can be achieved. While DOER administers the RPS, APS, and CPS, the CES is administered by the Massachusetts Department of Environmental Protection (MassDEP).[6]

The Clean Energy Standard for Clean Existing Generation Units (CES-E) was added to the CES program beginning in 2021 to maintain the contribution of existing clean energy generation units. The CES regulation required MassDEP to complete a review in 2017 of options for addressing clean generators that were in operation before 2011. In early 2019, MassDEP released a detailed discussion document of a "CES-E" requirement to maintain the clean energy supply from pre-2011 nuclear and large hydroelectric

[1] Chapter 209 of the Acts of 2012
[2] Chapter 251 of the Acts of 2014
[3] Chapter 188 of the Acts of 2016
[4] Chapter 227 of the Acts of 2018 which created the Clean Peak Standard.
[5] Chapter 8 of the Acts of 2021 increased the RPS Class I Minimum Standard from 2% to 3% annually for the years 2025 through 2029.
[6] In agreement with the Massachusetts Department of Environmental Protection, DOER's annual report on RPS and APS will also serve as the Annual Clean Energy Resource Report as specified in 310 CMR 7.75(9)(b), Clean Energy Standard

generators. Following the subsequent stakeholder process, the regulation was amended to include a CES-E in July 2020.

Overall, the RPS, APS, CPS and CES portfolio standard programs operated successfully in 2022. Most retail electricity suppliers met their compliance obligations. Five suppliers were non-compliant, however, their load obligations represented only 0.01% of the overall RPS Class I load obligation.

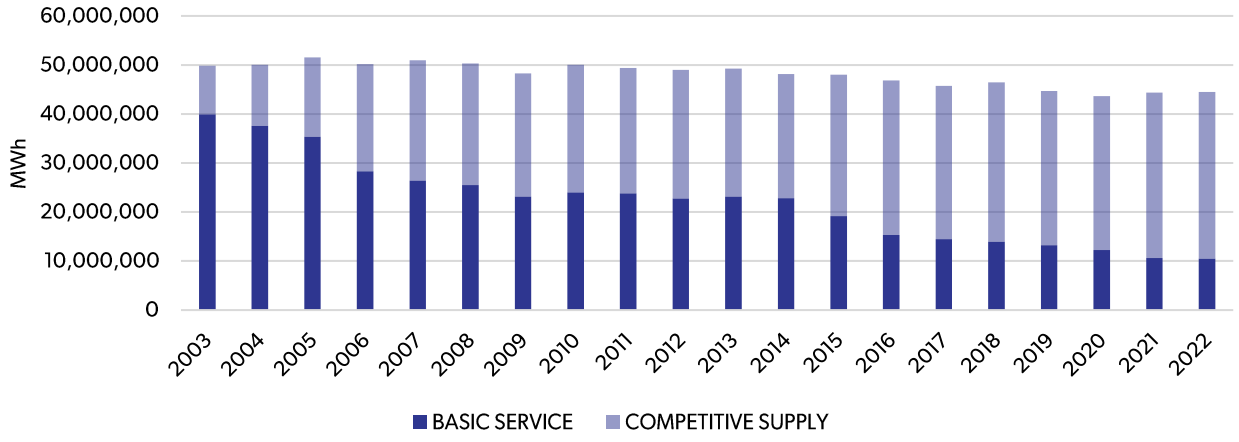
Load Obligation

In 2022, the load obligation was 44,507,592 MWh, a 0.03% increase from the 2021 load obligation of 44,374,196 MWh.

In accordance with MassDEP's Clean Energy Standard regulation[7], the reported 2022 load was equivalent to 96% of the reported 2018 load (46,409,960 MWh).

Figure 1 shows the breakdown of retail load served by Electric Distribution Companies' Basic Service compared to that served by competitive retail supply. The growth of municipal aggregation in the Commonwealth, which is served by competitive supply, has accelerated the shift away from load served by Basic Service in recent years.

Figure 1. Retail Load Comparison of Utilities' Basic Service Versus Competitive Supply
2003 - 2022



Clean Energy Attributes

To achieve RPS, APS, CPS, and CES compliance, each Retail Electricity Supplier must obtain enough of the applicable types of clean energy attributes in the form of certificates (i.e., renewable energy certificates, alternative energy certificates, clean peak energy certificates, or clean energy certificates) or make an Alternative Compliance Payment (ACP) to satisfy the minimum standard obligation.

[7] 310 CMR 7.75 (9)(b)4

Each certificate represents the generation attributes of one MWh of electricity generated during the Compliance Year by a qualified Generation Unit. However, the MWh value of some SREC II generation is discounted by SREC factors related to project size or type of location[8], and Clean Peak Energy Certificates may represent more or less than one MWh of generation[9] because of locational, seasonal, or peak hour factors and the vintage of the generation unit. Under the APS program, an Alternative Energy Certificate (AEC) represents either the MWh-equivalent of the fuel savings in thermal energy or the direct Useful thermal Energy generated from APS-qualified facilities as determined by the APS regulations[10] for each specific alternative energy technology and may be further modified by technology specific multipliers.

Eligible Resources and Fuel Types

Eligible RPS Class I resources include post-1997 renewable generation units located in New England or in adjacent electricity control areas.[11] Eligible RPS Class II - Renewable resources include pre-1998 renewable generation units (primarily small hydropower) located in New England or in adjacent electricity control areas. The following fuel types are eligible for RPS Class I and RPS Class II:

- solar photovoltaic or solar thermal;
- wind;
- ocean thermal, wave or tidal energy;
- fuel cells using an eligible RPS Class I or II renewable fuel;
- landfill methane gas;
- hydroelectric;
- low-emission, advanced biomass power conversion technologies using an eligible biomass fuel such as manufactured biomass fuel, by-products or waste from animals or agricultural crops, food or vegetative material, algae, organic refuse derived fuel, anaerobic digester gas and other biogases that are derived from such resources;[12]
- marine or hydrokinetic energy; and
- geothermal energy.

Eligible Class II waste-to-energy generation units must be pre-1998 waste-to-energy plants located in Massachusetts that meet certain MassDEP recycling requirements.

Eligible APS resources include air and ground source heat pumps, solar thermal or solar thermal electric energy, woody biomass, liquid biofuels, biogas, fuel cells, and waste-to-energy thermal in addition to Combined Heat and Power (CHP).

Eligible CPS resources include RPS Class I resources qualified after January 1, 2019, qualified RPS resources paired with battery storage, stand-alone batteries, and demand response assets.

[8] See 225 CMR 14.05(9)(l)
[9] See 225 CMR 21.05(6)
[10] See 225 CMR 16.00
[11] These include New York (NYISO), New Brunswick, Nova Scotia, Prince Edward Island and Quebec.
[12] Woody biomass generation units may no longer apply for a Statement of Qualification beginning January 1, 2022.

In 2022, no separate qualifying generators were eligible to produce stand-alone Clean Energy Credits (CECs). Therefore, RPS Class I RECs were used to meet the entirety of the CES obligation.

For CES-E, existing clean generation units include certain existing nuclear and hydroelectric plants with nameplate capacity greater than 30 MW and units which were in commercial operation before January 1, 2011.[13] The generation from qualified existing clean generation units create Existing Clean Generation Attributes (ECECs).

RPS Class I RECs Production

The total number of RPS Class I RECs generated (net of SRECs and SREC IIs) equaled 11,959,668 MWh, which represents an increase of 16.2% over 2021 (10,292,087). Some of these RECs also qualified for portfolio standards in other jurisdictions and may have been used for compliance in other New England states (mostly Connecticut, New Hampshire, and Rhode Island). In addition, some RECs were used to meet voluntary green product requirements that exceeded RPS requirements.[14] RPS Class I RECs were also used to meet the CES obligation.

Compliance

RPS Class I

An adequate supply of RPS Class I RECs existed in the market to meet the RPS Class I obligation. Suppliers utilized 13,320 ACP credits used for compliance and banked 760,374 RECs.

For the first time ever, solar exceeded wind as the largest fuel type. Solar accounted for 47.0% of the total RPS Class I REC generation (including SRECs and SREC IIs) while wind accounted for 44.8%.

Solar Carve-Out (SCO)

As the SCO market is winding down, the market grew tight. The total number of SRECs generated equaled 627,750 and suppliers utilized 623,615 for compliance. Suppliers banked 6,013 SRECs, the lowest level in five years. As a result of the tightening market, ACP receipts were $12,512,820 on 36,060 ACP credits, up from 533 ACP credits in 2021.

Solar Carve-Out II (SCO II)

The SCO II program became more under-supplied in 2022. Consequently, ACP receipts rose to $59,376,330 on 208,174 ACP credits.

RPS Class II Renewable

[13] A list of CES-E qualified units is posted in the FAQ document on MassDEP's CES webpage at: https://www.mass.gov/doc/frequently-asked-questions-massdep-clean-energy-standard/download.

[14] Class I RECs retired as "Voluntary Renewable Energy (VRE) purchases," will reduce the number of emissions allowances that can be sold in the RGGI Auction for a future year which will serve to reduce the regional emissions allowance cap for non-renewable thermal power plants. See 225 CMR 13.14, DOER CO2 budget trading program auction regulation. More information about RGGI can be found at http://www.rggi.org/.

The RPS Class II Renewable Energy program remained comparatively more out-of-balance than previous years, partly because the Minimum Standard increased from 3.5634% in 2021 to 3.6% in 2022. In 2022, only 1,424,565 Class II RECs were minted, but the net obligation stood at 1,602,070. ACP payments increased from $6,377,865 on 214,382 ACP credits in 2021 to $10,249,261 on 331,584 ACP credits in 2022.

RPS Class II Waste-to-Energy

The RPS Class II Waste-to-Energy program remained mostly in balance. By regulations adopted in 2021, the RPS Class II waste-to-energy Minimum Standard rose from 3.5%[15] to 3.7% for 2021 through 2025. In addition, the RPS Class II Waste-to-Energy ACP was raised to be equal to the RPS Class II Renewable Minimum Standard for the same period.[16]

Alternative Portfolio Standard (APS)

The APS market remained slightly over-supplied. In 2022, 23,883 ACP credits were utilized for compliance up from 6,370 in 2021. ACP receipts were $590,865. Suppliers banked 272,041 AECs in 2022, down from 350,809 AECs in 2021.

Clean Peak Energy Standard (CPS)

The CPS program was under-supplied. However, the load obligation was reduced by 20% of exempt load. ACP credits used were 1,393,380 up from 780,923 in 2021 totaling $62,702,098.

Clean Energy Standard (CES)

The CES Minimum Standard was 24% in 2022. All CECs used to meet the CES obligation were eligible RPS Class I RECs. In 2022, the ACP was increased to $35.00 from $30.00 in 2021. Most suppliers again opted to pay the ACP as opposed to paying market rates which generally were higher for eligible RPS Class I certificates whose ACP was $50.00/MWh, For 2022. For 2022 ACP receipts were $64,970,535 for 1,856,301 credits.

Clean Energy Standard for Existing Clean Generation Units (CES-E)

In 2022, 11,303,341 ECECs were available to meet the obligation of 7,493,254 (net of non-compliant suppliers), so the market is well-supplied. Nevertheless, 20,368 ACP credits were used to meet compliance resulting in $203,680 of ACP payments. No banking is allowed for CES-E.

Supplier Compliance

Sixty-four (64) Retail Electricity Suppliers (including the three state-regulated investor-owned utilities) served Massachusetts retail customers in 2022 (see Tab 14 Suppliers). Fifty-nine (59) suppliers fully

[15] See 225 CMR 15.07(2)
[16] See 225 CMR 15.08(4)

discharged their compliance obligations through the purchase of the required number of certificates or by making ACP payments. Five suppliers were non-compliant as noted below (see Tab 14 Non-Compliance).

Supplier Non-Compliance

Five Retail Electricity Suppliers, Agera, Astral, Liberty, MEGA and Sunwave, failed to meet their 2021 compliance requirements (see Tab 15 Non-Compliance). Agera, Liberty, MEGA and Sunwave are no longer licensed in Massachusetts as a retail electricity supplier. Astral is still licensed as a retail electricity supplier but the company is in bankruptcy.

In 2021, DOER incorporated financial security provision into its regulations as a protection mechanism for rate payers should retail electricity suppliers fall into non-compliance. Implementation of the financial security regulations began with Compliance Year 2022.[17]

In 2023, DOER called on the $1,000,000 Letter of Credit provided by MEGA under DOER's financial security provision. MEGA remained in default with DOER for $91,506.08 because the Letter of Credit did not cover its entire obligation. As financial security does not apply to MassDEP obligations, MEGA owed $364,215 to MassDEP for its non-compliance with CES and CES-E.

[17] See 225 CMR 14.08(4)

Summary of Compliance, 2022

A summary of how compliance was met in 2022 is shown in the table below.

Table 1. Summary of Compliance, 2022

Class	Net Minimum Standard	Total Obligation (MWh) *	Renewable Certificates Used to Meet Obligation **	ACP Credits Used Meet Obligation	Alternative Compliance Payments
RPS CLASS I	14.1%	6,285,277	6,270,996	13,320	$666,000.00
SCO ***	1.5%	686,836	650,671	36,060	$12,512,820.00
SCO II ***	4.1%	1,813,704	1,605,190	208,174	$59,376,330.00
RPS CLASS II – Renewable	3.6%	1,602,256	1,270,486	331,584	$10,249,261.44
RPS CLASS II - Waste-to-Energy	3.7%	1,646,824	1,638,801	7,772	$240,232.52
APS	5.5%	2,447,958	2,423,704	23,883	$590,865.42
CPS	3.6%	1,608,556	214,872	1,393,380	$62,702,097.97
TOTAL DOER					**$146,337,607.35**
CES ****	4.3%	1,896,046	38,132	1,856,301	$64,970,535.00
CES-E	16.9%	7,501,322	7,472,886	20,368	$203,680.00
TOTAL DEP					**$65,174,215.00**
TOTAL					**$211,511,822.35**

* Total obligation before exemptions and non-compliance.
** Includes errant and prior years' banked certificates.
*** Solar carve out requirements are carve-outs of the overall RPS Class I requirement.
****CES total obligation is 24%. The RPS Class I obligation counts towards meeting the overall CES obligation. Results reflect Net Minimum Standard.