



# Massachusetts SREC-I and SREC-II Update

January 15, 2019

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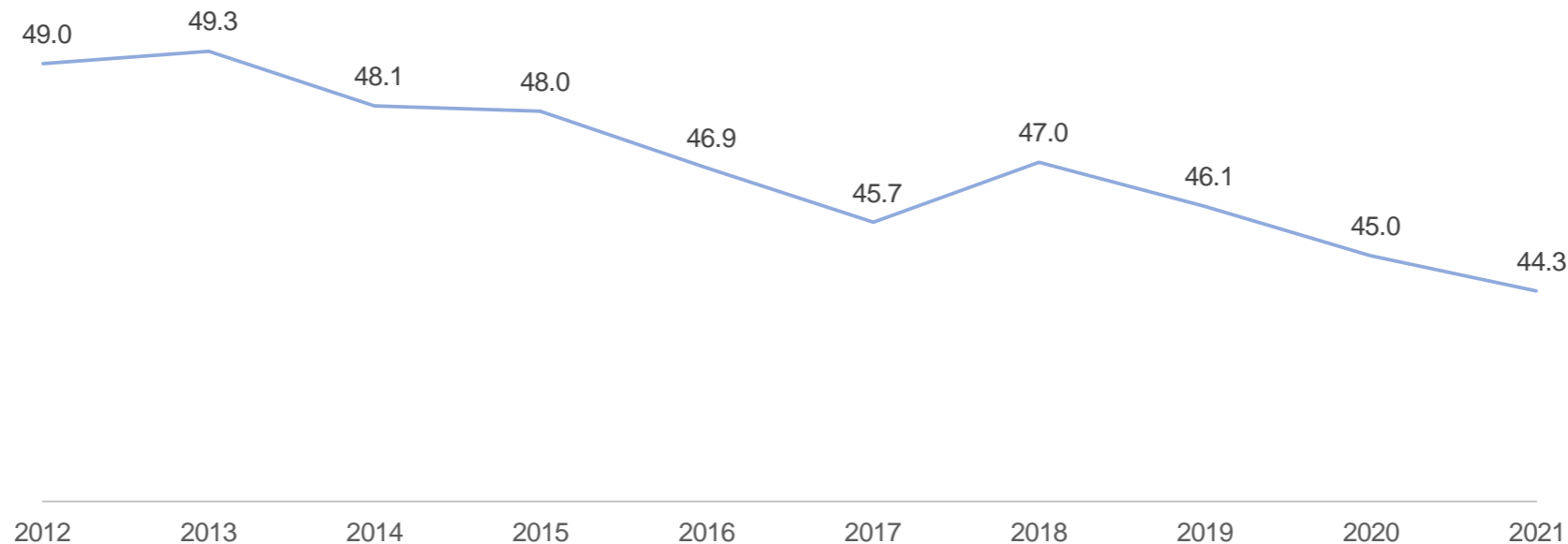
# MASSACHUSETTS ACTUAL AND PROJECTED RETAIL ELECTRIC LOAD



On December 27, 2018, the Massachusetts Department of Energy Resources released the 2016 Renewable Portfolio Standard (RPS) and Alternative Portfolio Standard (APS) Annual Compliance [Report](#). Page 21 of the report provides actual and projected retail load figures. The retail load projections starting in 2018 are based on the ISO-NE load growth projections in its CELT Report\*.

The report shows an expected increase in 2018 retail electric load of 2.75% over 2017.

*MWhs in millions*



Source: MA DOER

\*The ISO-NE figures are from Tab 2C, (Energy (GWh)) in the 2018 CELT Report document titled "Forecast Data 2018", dated 5/1/2018, which is listed at <http://www.iso-ne.com/system-planning/system-plans-studies/celt>.

# MA SREC-I EXEMPT-LOAD ADJUSTED COMPLIANCE OBLIGATION



DOER released updated RPS compliance exemption data as of January 2, 2019. These figures are important as the exempt load reduces the number of SRECs needed to be purchased for the MA SREC-I program. Figures below demonstrate 2018 and 2019 obligation.

SREC I Exemption (Pre-6/28/13 Contracts)							
Year	Actual/ Projected Total Load (MWh) <sup>1</sup>	Actual/ Projected Exempt Load (MWh) <sup>2</sup>	Exempt Load (%)	Compliance Obligation (MWh) <sup>3</sup>	Obligation Impacted by Exemption (MWh) <sup>4</sup>	Projected Reduction in Obligation (MWh)	Projected Adjusted Obligation (MWh) <sup>5</sup>
2014	48,129,292	10,493,972	21.80%	464,520	N/A	N/A	N/A
2015	48,009,723	4,019,550	8.37%	1,056,097	299,616	25,085	1,031,012
2016	46,864,431	1,308,729	2.79%	845,519	373,641	10,434	835,085
2017	45,722,692	356,771	0.78%	783,183	473,390	3,694	779,489
2018	45,722,692	108,541	0.24%	838,995	534,753	1,269	837,726
2019	45,722,692	22,591	0.05%	798,214	501,962	248	797,966
2020	45,722,692	17,452	0.04%	TBD	TBD	TBD	TBD
2021	45,722,692	13,690	0.03%	TBD	TBD	TBD	TBD
2022	45,722,692	11,085	0.02%	TBD	TBD	TBD	TBD

<sup>1</sup> Actual data through 2017. Projected load held constant thereafter.

<sup>2</sup> Aggregated from data provided by retail suppliers

<sup>3</sup> Calculated per per 225 CMR 14.07(2)

<sup>4</sup> Calculated by subtracting the Solar Carve-Out Program Capacity Cap at 400 MW from the Final Solar Carve-Out Program Capacity Cap per 225 CMR 14.07(2)(a)4 and 5

<sup>5</sup> The Projected Adjusted Obligation provides DOER's best estimate of the overall compliance obligation and hence market demand by factoring in the reported Exempt Load. The actual Compliance Obligation will be based on the actual Load and Exempt Load served in that year.

# MA2018 SREC-I FORECAST



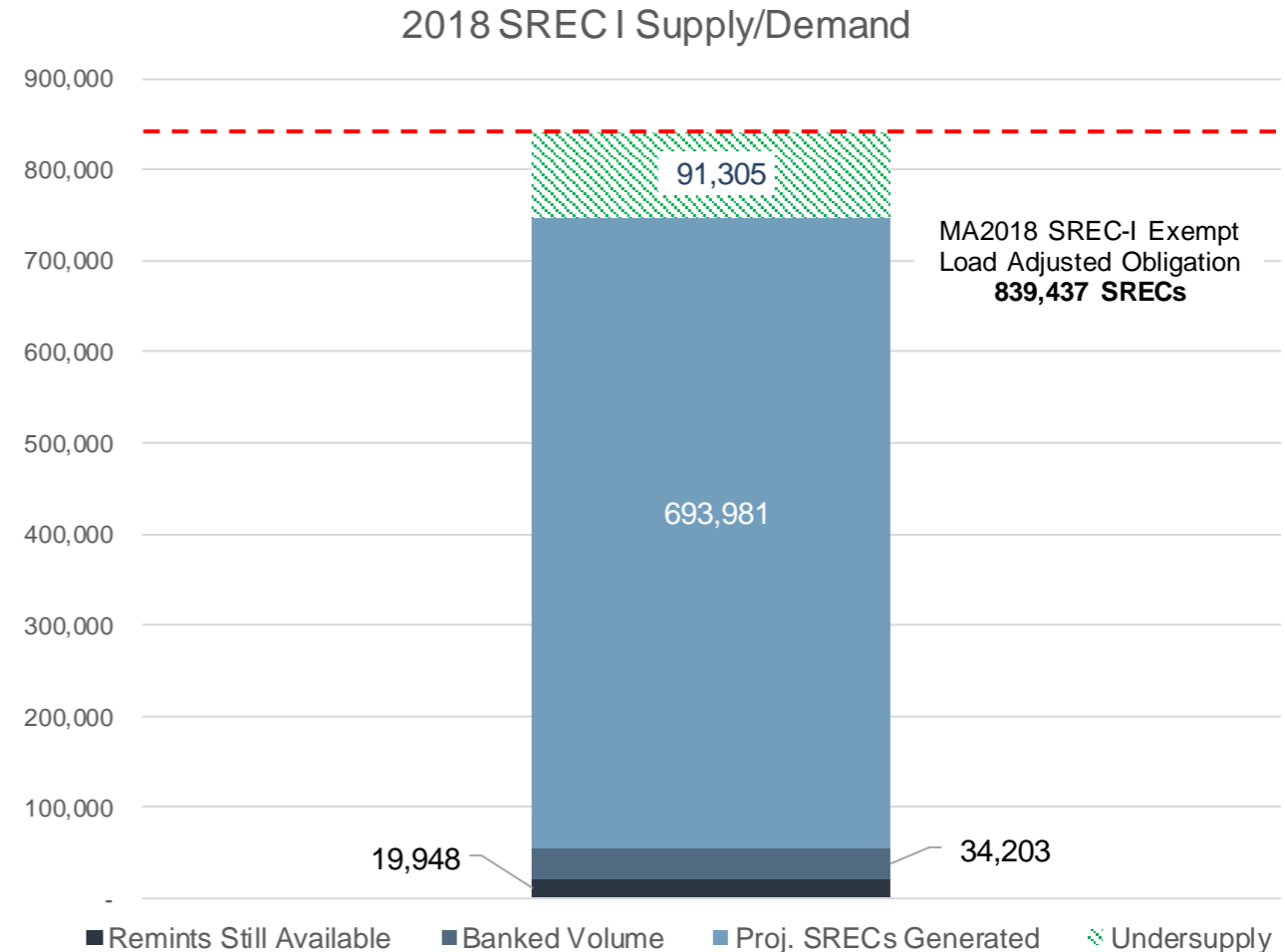
Considering data available from MA DOER and expected Q4 2018 production figures, the MA2018 SREC-I market is undersupplied.

Factors that could impact this include:

- 1) Final 2018 electricity load figures
- 2) Q4 2018 generation issued on 4/15/19

## 2018 SREC-I Supply & Demand Summary

- Bank & Remint Volume 2016/2017: 54,151
- Proj. 2018 SREC Generation: 693,981
- Exempt Load Adjusted Obligation: 839,437
- Undersupply: 91,305 (10.9% of obligation)



Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast uses actual SREC-I production for 2018 Q1-Q3. Forecast uses SRECTrade projections for 2018 Q4 production. Annual production factor used is 1,160 MWh per MW. Forecast uses banked and reminted SREC numbers from the Massachusetts DOER. Forecast uses projected 2018 load from MA DOER outlined on slide 3.

# MA2019 SREC-I FORECAST



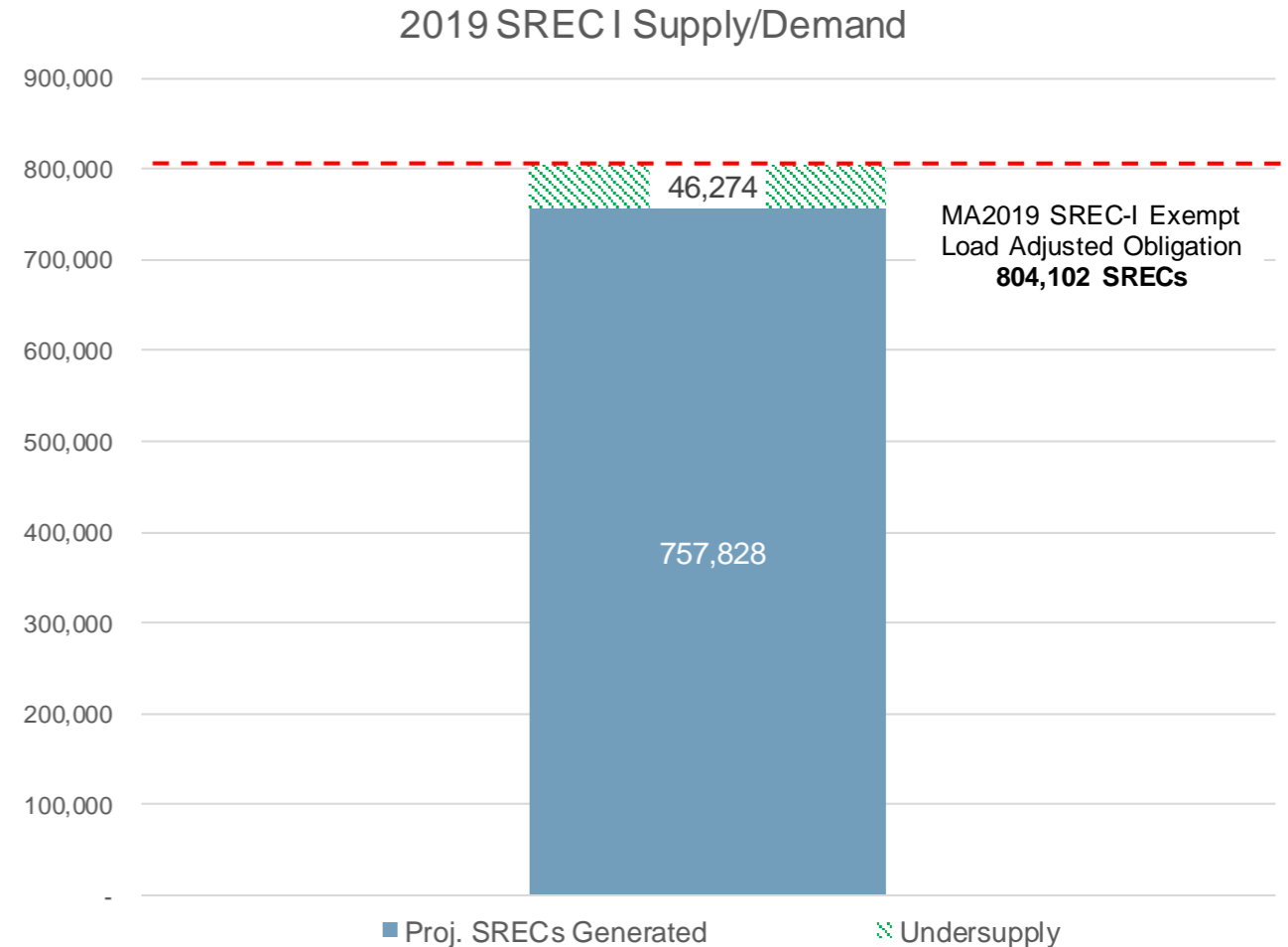
Utilizing MA DOER data and SRECTrade projections for 2019 generation figures, the current outlook for 2019 yields a period of undersupply.

Factors that could impact this include:

- 1) Final 2019 electricity load figures
- 2) Final 2018 SREC generation figures
- 3) 2019 SREC generation

## 2019 SREC-I Supply & Demand Summary

- Proj. Bank & Remint Volume 2017/2018: None
- Proj. 2019 SREC Generation: 757,828
- Exempt Load Adjusted Obligation: 804,102
- Undersupply: 46,274 (5.8% of obligation)



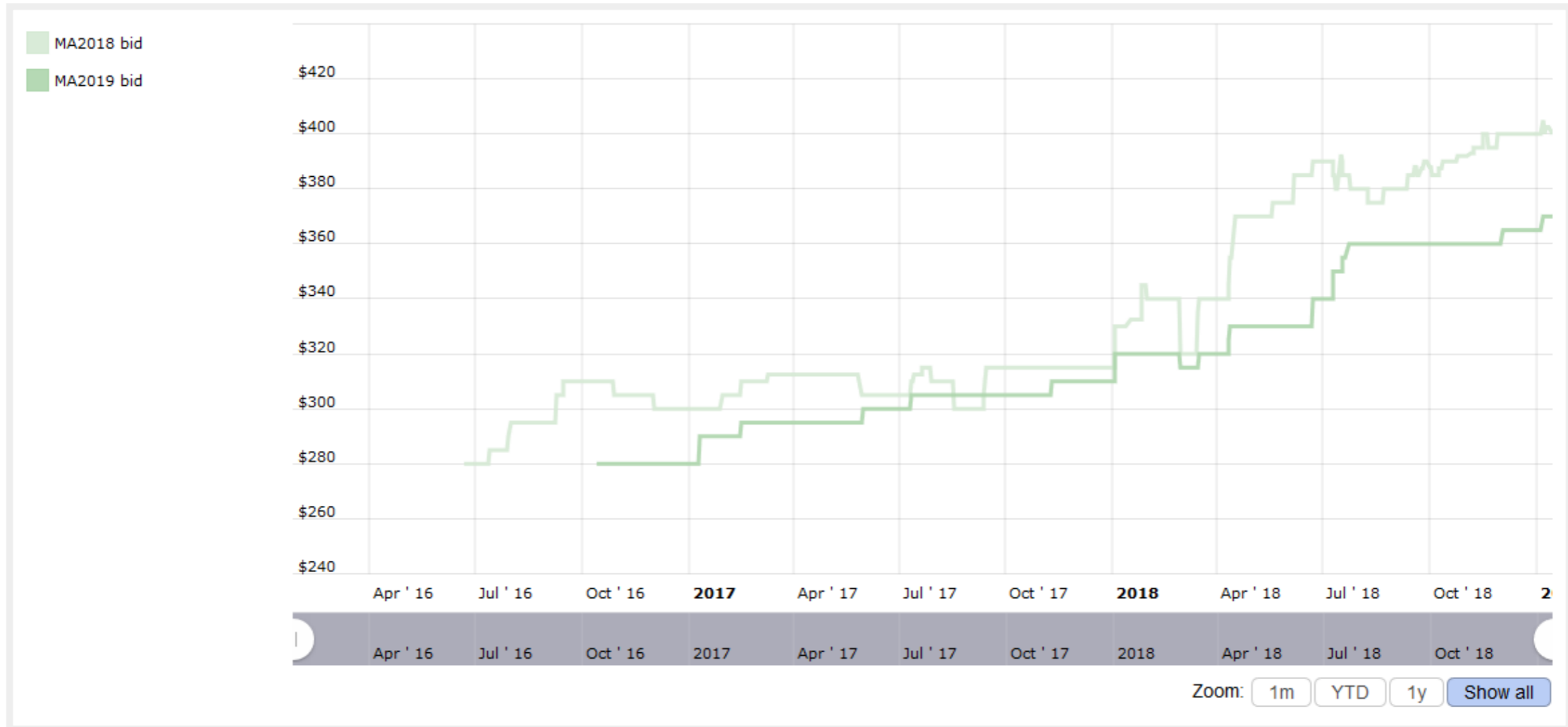
Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast assumes a 1,160 MWh per MW production factor on 653.3 MW of SREC- I eligible capacity. Also assumes all banked SRECs are utilized for 2018 obligation. Forecast uses projected 2019 load from MA DOER outlined on slide 3.

# MA2018 & MA2019 SREC-I PRICING



Current MA18 SREC-I market: \$400 bid @ \$410 offer  
Current MA19 SREC-I market: \$370 bid @ \$380 offer



# MA SREC-II EXEMPT-LOAD ADJUSTED COMPLIANCE OBLIGATION



DOER released updated RPS compliance exemption data as of January 2, 2019. These figures are important as the exempt load reduces the number of SRECs needed to be purchased for the MA SREC-II program. Figures below demonstrate 2018 and 2019 obligation.

SREC II Load Exemptions										
Year	Actual/Projected Total Load (MWh) <sup>1</sup>	Actual/Projected Exempt Load Served Under Contracts Signed before April 25, 2014 (MWh) <sup>2</sup>	Pre-April 25, 2014 Load as a Percentage of Total Load (%)	Projected Reduction in Obligation Resulting from Pre-April 25, 2014 Load (MWh)	Actual/Projected Load Served Under Contracts Signed after April 24, 2014 and before May 8, 2016 (MWh) <sup>3</sup>	Pre-May 8, 2016 as a Percentage of Total Load (%)	Projected Reduction in Obligation Resulting from Pre-May 8, 2016 Load (MWh)	Baseline Compliance Obligation (MWh) <sup>4</sup>	Compliance Obligation (MWh) <sup>5</sup>	Adjusted Projected Final Compliance Obligation (MWh) <sup>6</sup>
2014	48,129,294	23,171,635	48.14%	19,874					41,279	21,405
2015	48,009,723	10,516,104	21.90%	35,475					161,958	126,483
2016	46,864,431	6,162,098	13.15%	49,686					377,877	328,191
2017	45,722,692	3,459,060	7.57%	103,978	12,735,216	27.85%	112,742	969,635	1,374,406	1,157,687
2018	45,722,692	1,732,957	3.79%	72,262	6,125,417	13.40%	87,017	1,257,046	1,906,578	1,747,299
2019	45,722,692	981,597	2.15%	38,419	2,724,437	5.96%	43,441	1,060,524	1,789,567	1,707,707
2020	45,722,692	395,433	0.86%	TBD	1,336,799	2.92%	TBD	TBD	TBD	TBD
2021	45,722,692	264,141	0.58%	TBD	590,304	1.29%	TBD	TBD	TBD	TBD
2022	45,722,692	88,028	0.19%	TBD	241,063	0.53%	TBD	TBD	TBD	TBD

<sup>1</sup> Actual data through 2017. Projected load held constant thereafter.

<sup>2</sup> Aggregated from data provided by retail suppliers

<sup>3</sup> Aggregated from data provided by retail suppliers

<sup>4</sup> Calculated annually by DOER. Assumes that only 1,600 MW of SREC II projects were qualified under the program for the purpose of establishing a baseline.

<sup>5</sup> Established for 2014 and 2015 in 225 CMR 14.07(3)(c) and (d). Calculated using the formula in 225 CMR 14.07(3)(e) for all subsequent years.

<sup>6</sup> The Adjusted Projected Compliance Obligation provides DOER's best estimate of the overall compliance obligation and hence market demand by factoring in reported and projected Exempt Load. The actual Compliance Obligation will be based on the actual load and exempt load served in a particular compliance year.



# MA2018 SREC-II FORECAST



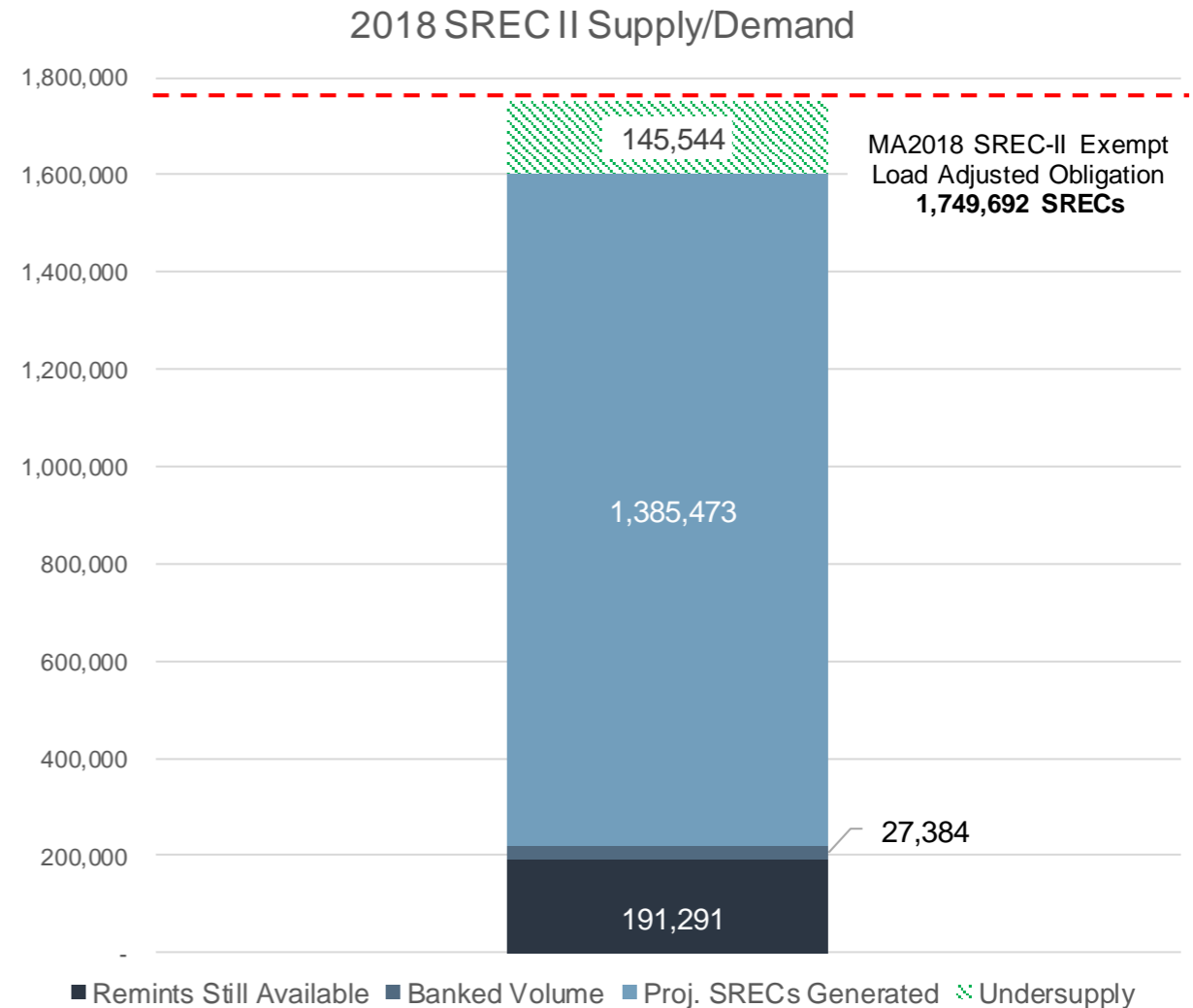
Considering data available from MA DOER and expected Q4 2018 production figures, the MA2018 SREC-II market is undersupplied.

Factors that could impact this include:

- 1) Final 2018 electricity load figures
- 2) Q4 2018 generation issued on 4/15/19

## 2018 SREC-II Supply & Demand Summary

- Bank & Remint Volume 2016/2017: 218,675
- Proj. 2018 SREC Generation: 1,385,473
- Exempt Load Adjusted Obligation: 1,749,692
- Undersupply: 145,544 (8.3% of obligation)



Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast uses actual SREC-II production for 2018 Q1-Q3. Forecast uses SRECTrade projections for 2018 Q4 SREC. Annual production factor used is 1,160 MWh per MW. Forecast uses banked and reminted SREC numbers from the Massachusetts DOER. Forecast uses projected 2018 load from MA DOER outlined on slide 3.

# MA2019 SREC-II FORECAST



Utilizing MA DOER data and SRECTrade projections for 2019 SREC generation figures, the current outlook for 2019 yields a period of near equilibrium.

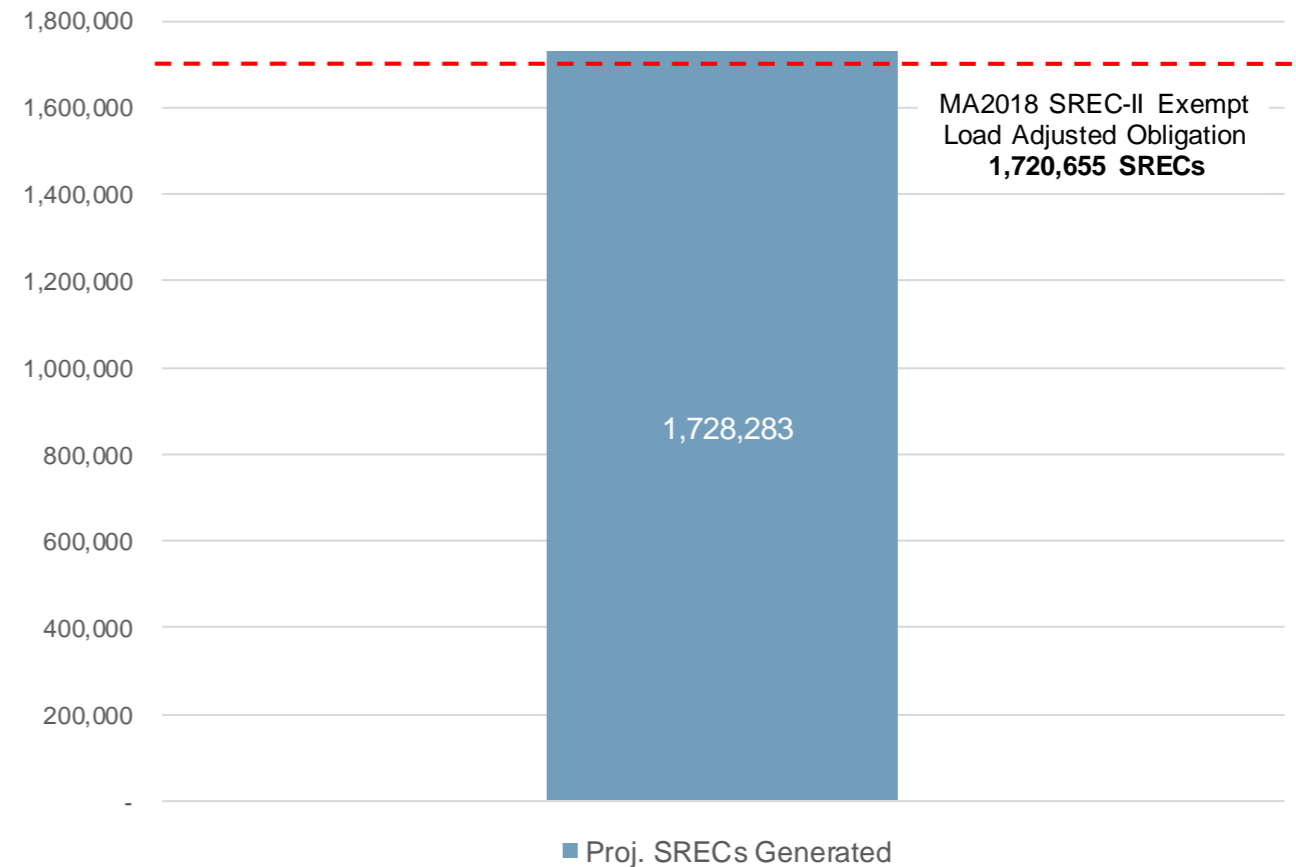
Factors that could impact this include:

- 1) Final 2019 electricity load figures
- 2) Final 2018 SREC generation figures
- 3) 2019 SREC generation

## 2019 SREC-II Supply & Demand Summary

- Proj. Bank & Remint Volume 2017/2018: None
- Proj. 2019 SREC Generation: 1,728,283
- Exempt Load Adjusted Obligation: 1,720,655
- Oversupply: 7,628 (0.4% of obligation)

2019 SREC II Supply/Demand



Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast assumes 90% of Qualified & Not Operational assets from MA DOER SQA list as of 12/12/18 will receive PTO within a year of the Effective Date of SMART in equal monthly increments, and the remaining 10% will receive PTO in lump sum after 12 months. Annual production factor used is 1,160 MWh per MW. Forecast uses projected 2019 load from MA DOER outlined on slide 3.

# MA2018 & MA2019 SREC-II PRICING



Current MA18 SREC-II market: \$325 bid @ \$331 offer  
Current MA19 SREC-II market: \$290 bid @ \$300 offer

