



Massachusetts SREC-I and SREC-II Update

April 10, 2018

CONTENTS



- MA SREC-I Exempt-Load Adjusted Compliance Obligations
- 2017 MA SREC-I Supply and Demand Forecast
- 2018 MA SREC-I Supply and Demand Forecast
- MA2017 & MA2018 SREC-I Pricing
- MA SREC-II Eligible Cumulative Build Rates
- MA SREC-II Change in Solar Build Rates
- MA SREC-II Exempt-Load Adjusted Compliance Obligations
- 2017 MA SREC-II Supply and Demand Forecast
- 2018 MA SREC-II Supply and Demand Forecast
- MA2017 & MA2018 SREC-II Pricing

Disclaimer. This document, data, and/or any of its components (collectively, the “Materials”) are for informational purposes only. The Materials are not intended as investment, tax, legal, or financial advice, or as an offer or solicitation for the purpose or sale of any financial instrument. SRECTrade, Inc. does not warranty or guarantee the market data or other information included herein, as to its completeness, accuracy, or fitness for a particular purpose, express or implied, and such market data and information are subject to change without notice. Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. Any comments or statements made herein do not necessarily reflect those of SRECTrade, Inc. SRECTrade, Inc. may have issued, and may in the future issue, other communications, data, or reports that are inconsistent with, and reach different conclusions from, the information presented herein. Copyright. This document is protected by copyright laws and contains material proprietary to SRECTrade, Inc. This document, data, and/or any of its components (collectively, the “Materials”) may not be reproduced, republished, distributed, transmitted, displayed, broadcasted or otherwise disseminated or exploited in any manner without the express prior written permission of SRECTrade, Inc. The receipt or possession of the Materials does not convey any rights to reproduce, disclose, or distribute its contents, or to manufacture, use, or sell anything that it may describe, in whole or in part. If consent to use the Materials is granted, reference and sourcing must be attributed to the Materials and to SRECTrade, Inc. If you have questions about the use or reproduction of the Materials, please contact SRECTrade, Inc.

MA SREC-I EXEMPT-LOAD ADJUSTED COMPLIANCE OBLIGATION



DOER released updated RPS compliance exemption data as of November 27, 2017. These figures are important as the exempt load reduces the number of SRECs needed to be purchased for the MA SREC-I program.

| SREC I Exemption (Pre-6/28/13 Contracts) | | | | | | | |
|--|---|--|-----------------|--|---|---|--|
| Year | Total Projected Load (MWh) ¹ | Projected Exempt Load (MWh) ² | Exempt Load (%) | Compliance Obligation (MWh) ³ | Obligation Impacted by Exemption (MWh) ⁴ | Projected Reduction in Obligation (MWh) | Projected Adjusted Obligation (MWh) ⁵ |
| 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 | 46,864,431 | 456,458 | 0.97% | 783,183 | 473,390 | 4,611 | 778,572 |
| 2018 | 46,864,431 | 109,134 | 0.23% | 838,995 | 534,753 | 1,245 | 837,750 |
| 2019 | 46,864,431 | 26,585 | 0.06% | TBD | TBD | TBD | TBD |
| 2020 | 46,864,431 | 23,155 | 0.05% | TBD | TBD | TBD | TBD |
| 2021 | 46,864,431 | 3,993 | 0.01% | TBD | TBD | TBD | TBD |

¹ Actual data through 2016. Projected load held constant thereafter.

² Aggregated from data provided by retail suppliers

³ Calculated per per 225 CMR 14.07(2)

⁴ 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

⁵ 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.

MA2017 SREC-I Supply



When considering figures made available from MA DOER and 2017 generation figures and estimates, it is expected that MA2017 SREC-I will be slightly oversupplied.

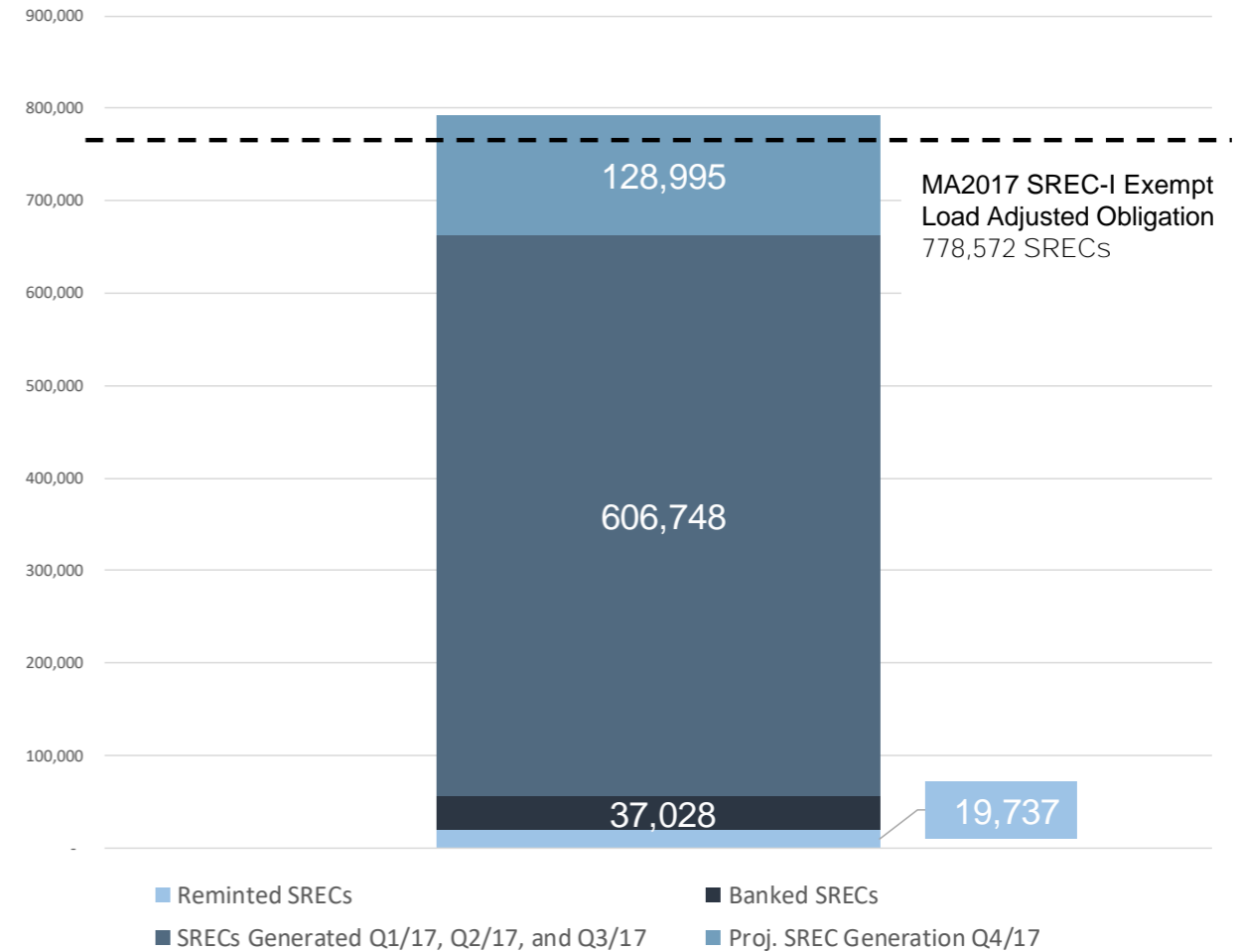
Factors that could impact this include:

- 1) Final 2017 electricity supply figures
- 2) Q4 2017 generation issued on 4/15/18

2017 SREC-I Supply Summary

- Bank and Remint Volume 2016: **56,765**
- Proj. 2017 Supply: **735,743**
- Exempt Load Adjusted Obligation: **778,572**
- Oversupply: **13,936** (1.8% of obligation)

MA SREC-I 2017 Generation and Compliance Obligation (SRECs)



Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast uses actual SREC-I production for 2017 Q1-Q3. Forecast adds 10% to the MWhs already reported to PTS from DOER RPS Solar Carve-Out SRECs Minted and Expected 1/18/2018 report for 2017 Q4 to account for late reporters to estimate Q4 2017 SREC production. Forecast uses banked and reminted SREC numbers from the Massachusetts DOER.

MA2018 SREC-I FORECAST



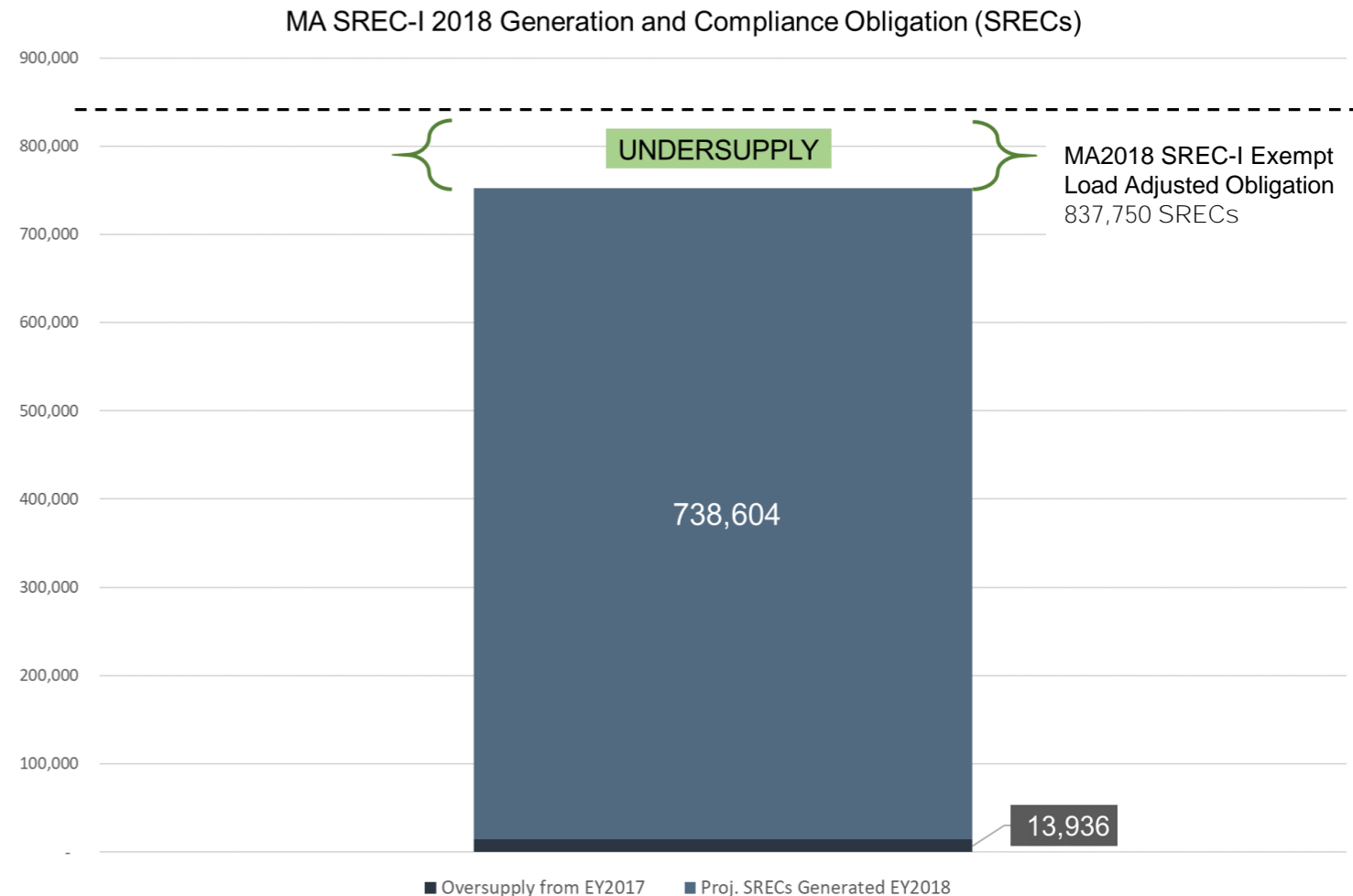
Utilizing MA DOER data and estimates for 2018 generation figures, the current outlook for 2018 yields a period of undersupply.

Factors that could impact this include:

- 1) Final 2018 electricity supply figures
- 2) Final 2017 SREC supply figures
- 3) 2018 solar generation

2018 SREC-I generation

- Oversupply 2017: **13,936**
- Proj. 2018 Supply: **738,604**
- Exempt Load Adjusted Obligation: **837,750**
- Undersupply: **85,210** (10.2% of obligation)



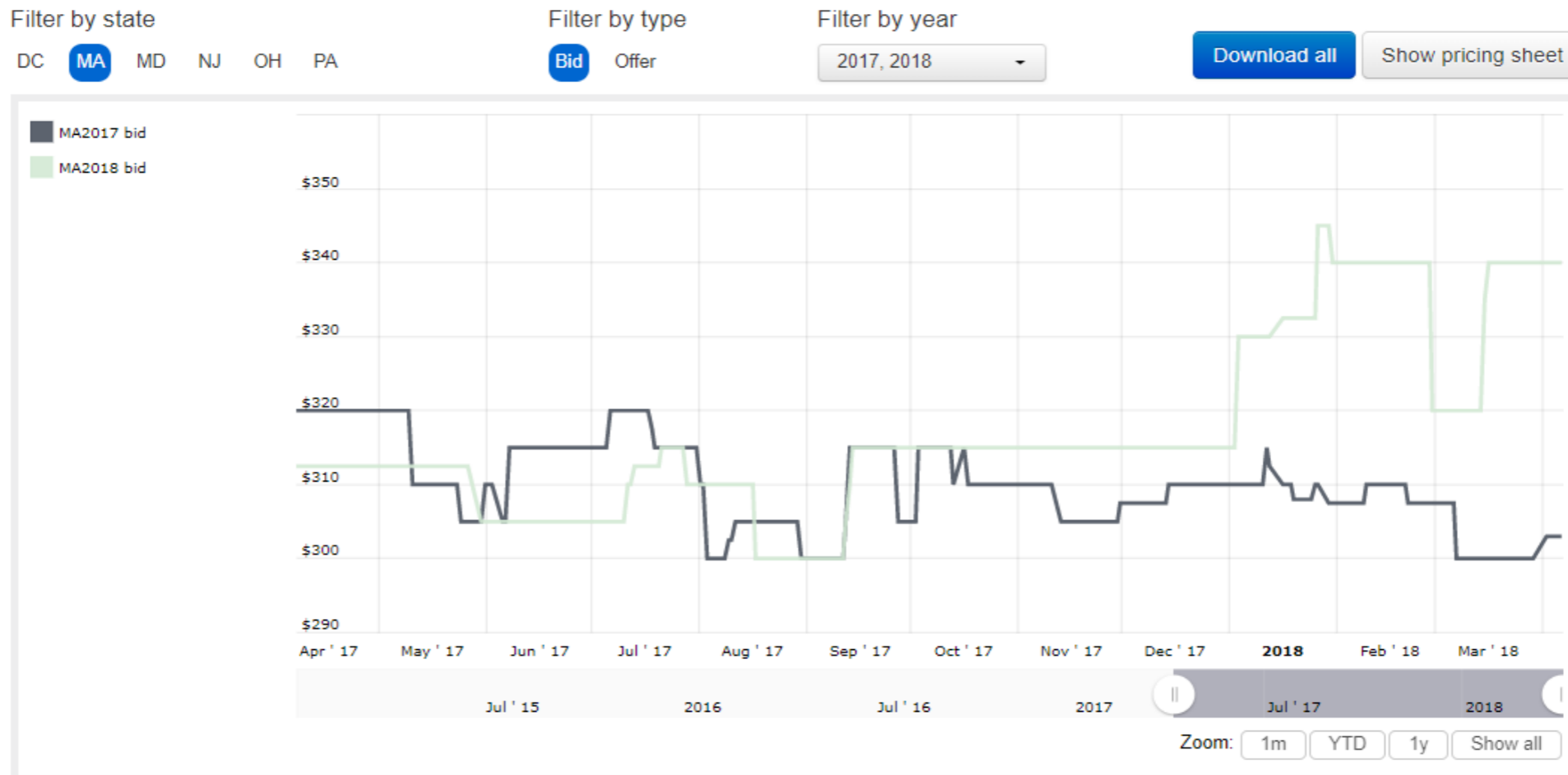
Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast assumes a 1,160 MWh per MW production factor on 653.3 MW of SREC- I eligible capacity, with Q1 2018 adjusted by -10% for weather adjustments. Also assumes all banked SRECs are utilized for 2017 obligation. 2017 oversupply applied towards 2018 obligations.

MA2017 & MA2018 SREC-I PRICING



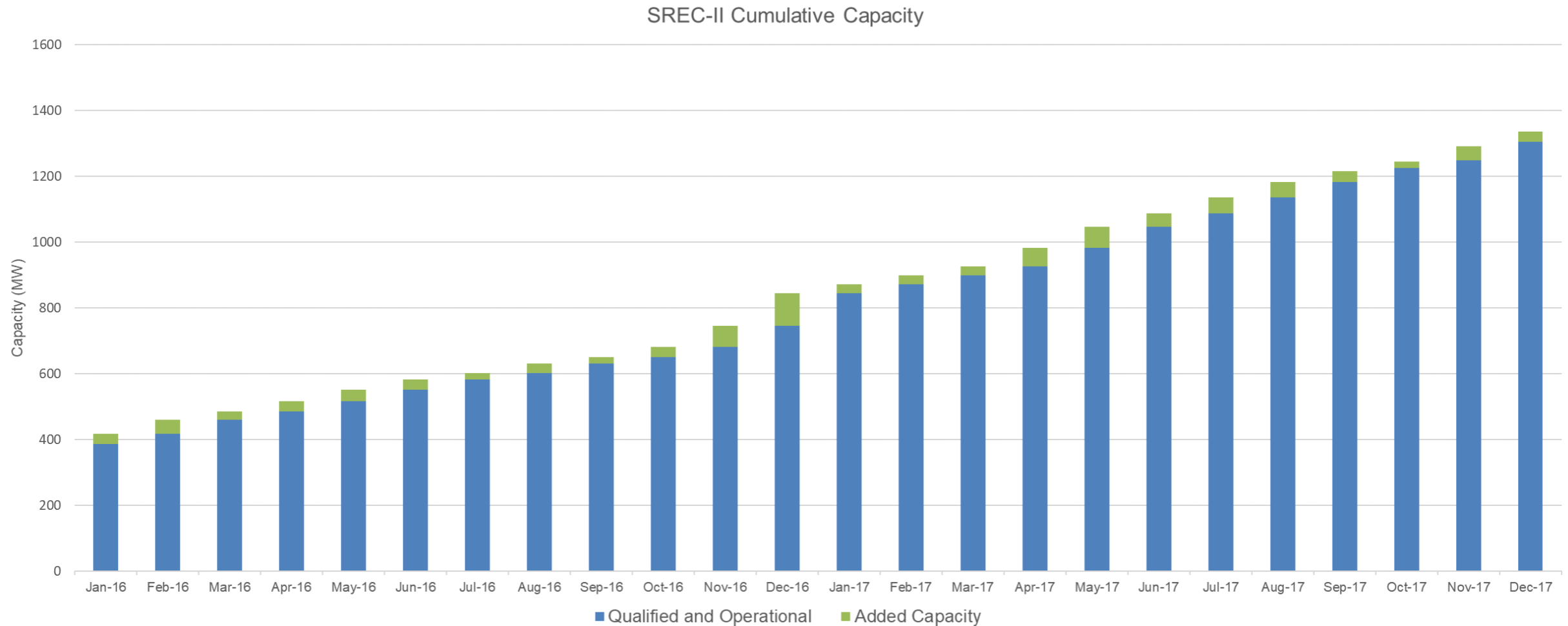
Current MA17 SREC-I market: \$303 bid @ \$310 offer
Current MA18 SREC-I market: \$340 bid @ \$350 offer



MA SREC-II CUMULATIVE SOLAR BUILD



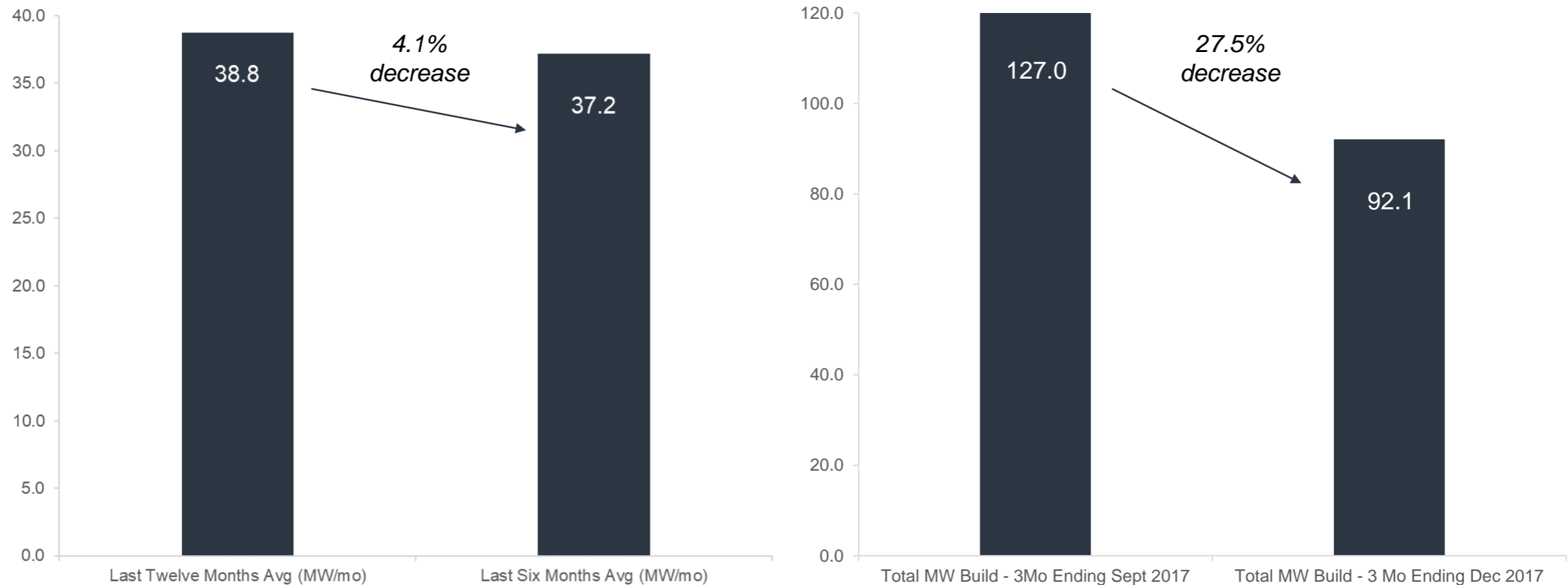
As of March 15th, 2018, SREC-II eligible, qualified and operational capacity is 1,367 MW. The chart below depicts qualified and operational capacity growth through December 2017.



MA SREC-II SOLAR BUILD RATES (MW)



Monthly build over the last 6 months has decreased by 4.1% to 37.2 MW/month as compared to the longer term last 12 month (LTM) average. Total quarterly MW build for the period ending December 2017 is significantly lower, reflecting a slowdown in commercial build as the SREC-II program comes to a close.



Source: MA DOER. Note Last 12 Month (LTM) and Last 6 Month (LSM) data through December 2017.

MA SREC-II EXEMPT-LOAD ADJUSTED COMPLIANCE OBLIGATION



DOER released updated RPS compliance exemption data as of November 27, 2017. 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 2017 and 2018 obligation

| SREC II Load Exemptions | | | | | | | | | | |
|-------------------------|---|---|---|--|---|---|---|---|--|---|
| Year | Total Projected Load (MWh) ¹ | Actual/Projected Exempt Load Served Under Contracts Signed before April 25, 2014 (MWh) ² | 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 before May 8, 2016 (MWh) ⁴ | 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) ⁵ | Compliance Obligation (MWh) ⁶ | Adjusted Projected Final Compliance Obligation (MWh) ⁷ |
| 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 | 46,864,431 | 3,499,290 | 7.47% | 102,625 | 17,697,344 | 37.76% | 102,751 | 1,102,311 | 1,374,406 | 1,169,031 |
| 2018 | 46,864,431 | 1,958,809 | 4.18% | 81,607 | 7,769,315 | 16.58% | 107,681 | 1,302,902 | 1,952,434 | 1,763,146 |
| 2019 | 46,864,431 | 1,414,568 | 3.02% | TBD | 4,486,014 | 9.57% | TBD | TBD | TBD | TBD |
| 2020 | 46,864,431 | 387,098 | 0.83% | TBD | 866,527 | 1.85% | TBD | TBD | TBD | TBD |
| 2021 | 46,864,431 | 265,896 | 0.57% | TBD | 343,428 | 0.73% | TBD | TBD | TBD | TBD |

¹ Actual data through 2016. Projected load held constant thereafter.

² Aggregated from data provided by retail suppliers

³ Aggregated from data provided by retail suppliers

⁴ 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.

⁵ 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.

⁶ 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.

MA2017 SREC-II FORECAST



Considering data available from MA DOER and expected Q4 2017 production figures, the MA2017 SREC-II market is oversupplied.

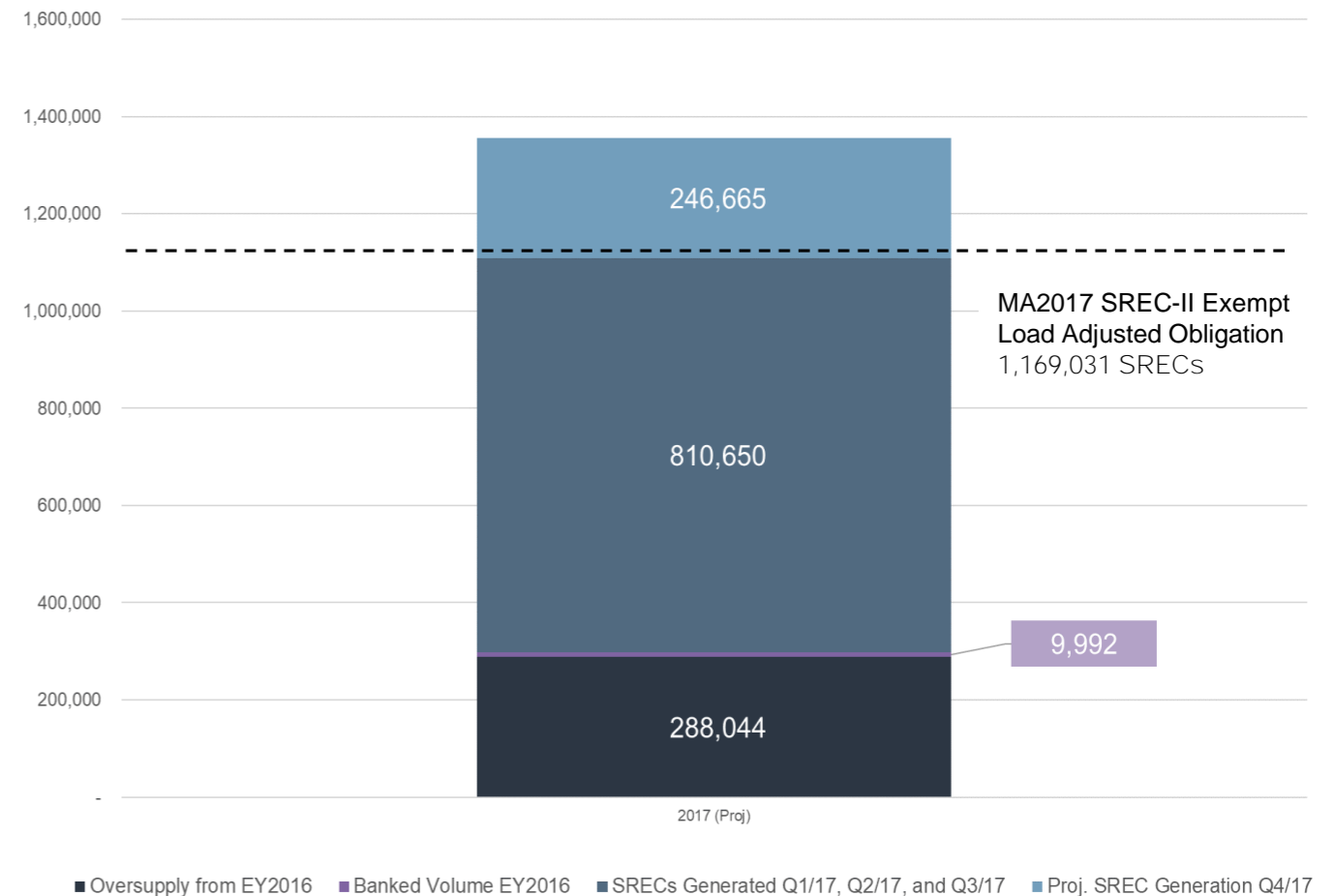
Prior year SRECs available for compliance in 2017

- 2015: **44,667**
- 2016: **243,377**

2017 SREC-II generation

- Oversupply 2015 + 2016: **288,044**
- Banked Volume 2016: **9,992**
- Proj. 2017 Supply: **1,057,315**
- Exempt Load Adjusted Obligation: **1,169,031**
- Oversupply: **186,320** (15.9% of obligation)

MA SREC-II 2017 Generation and Compliance Obligation (SRECs)



Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast uses actual SREC-II production for 2017 Q1-Q3. Forecast projects 2017 Q4 SREC production by summing the product of the average cumulative monthly capacity by the corresponding month's production factor ratio. Annual production factor used is 1,160 MWh per MW. Oversupply from 2015 and 2016 applied to 2017 obligations.

MA2018 SREC-II FORECAST



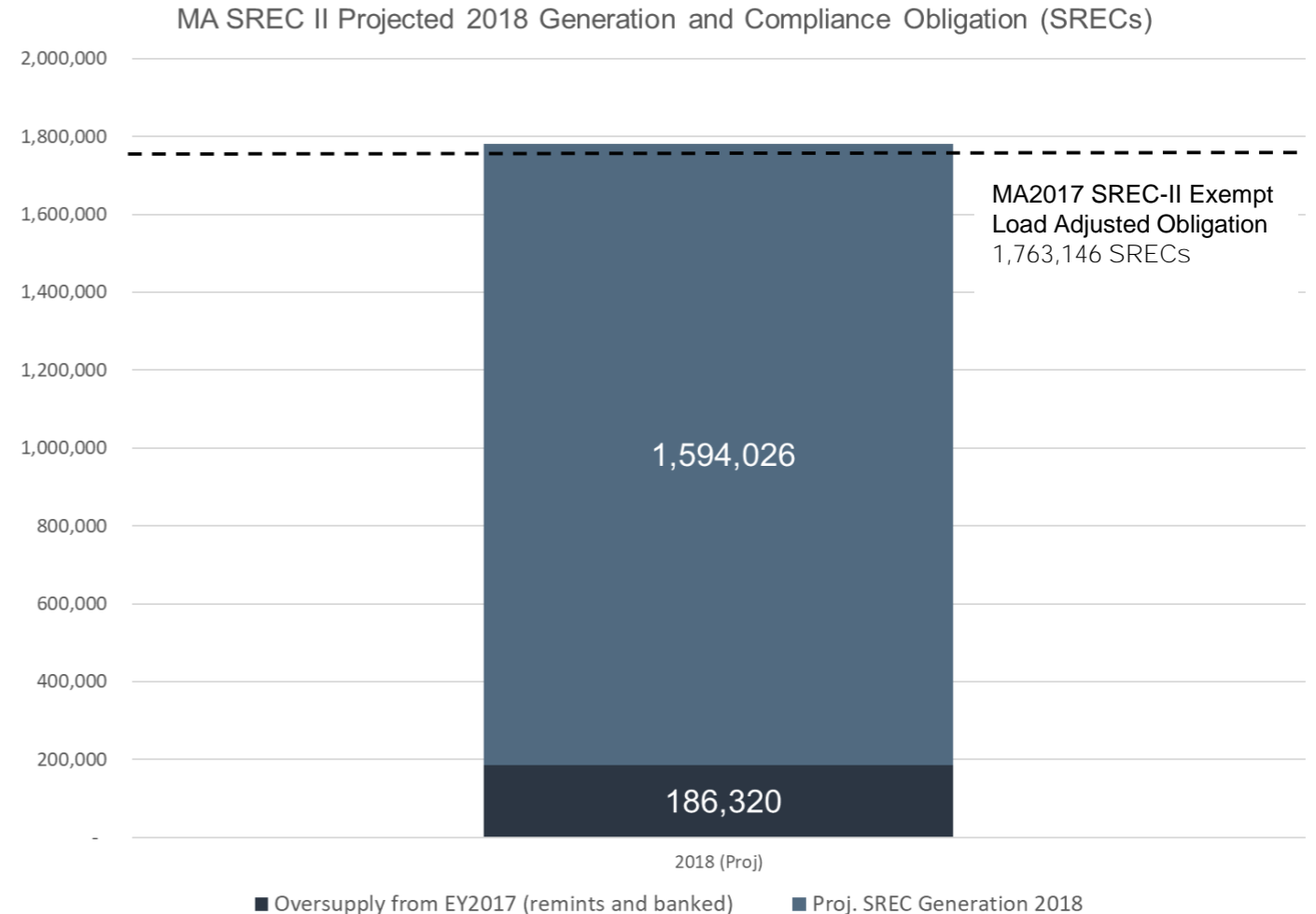
Utilizing MA DOER data and estimates for 2018 generation figures, the current outlook for 2018 yields a period of slight oversupply.

Factors that could impact this include:

- 1) Final 2018 electricity supply figures
- 2) Final 2017 SREC supply figures
- 3) 2018 solar generation

2018 SREC-II generation

- Oversupply EY2017: **186,320**
- Proj. EY2018 Supply: **1,594,026**
- Exempt Load Adjusted Obligation: **1,763,146**
- Oversupply: **17,200** (1% of obligation)



Source: MA DOER, NEPOOL GIS, and SRECTrade Estimates

Note: Forecast assumes last six month factor-adjusted average build rate for < 25 kW systems of 4.83 MW/month will continue through the end of the SREC-II program (H1 2018). Forecast assumes “qualified but not operational” commercial systems will come online in-full, half at the end of Q1 and half at the end of Q2. The Q2 supply numbers account for the March 31st drop in market factor. 2017 oversupply assumed to be applied towards 2018 obligations.

MA2017 & MA2018 SREC-II PRICING



Current MA17 SREC-II market: \$267.50 bid @ \$275 offer
Current MA18 SREC-II market: \$278 bid @ \$284 offer

