



Maryland SREC Update

April 18, 2017

AGENDA



- Maryland Solar Build Rates
- MD SREC Supply and Forecast
- Maryland Electricity Sales Assumptions
- Supply and Demand Scenarios
- MD SREC Market Pricing

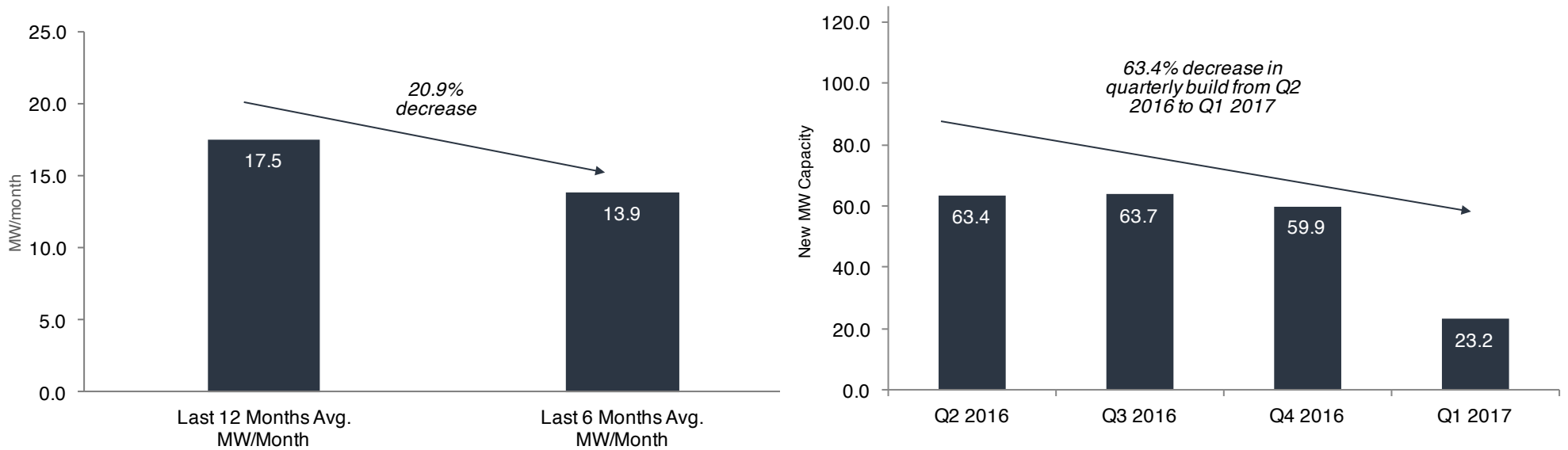
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MD SOLAR BUILD RATES (MW)



Registered MD Capacity in PJM GATS as of 4/12/2017 = 719MW



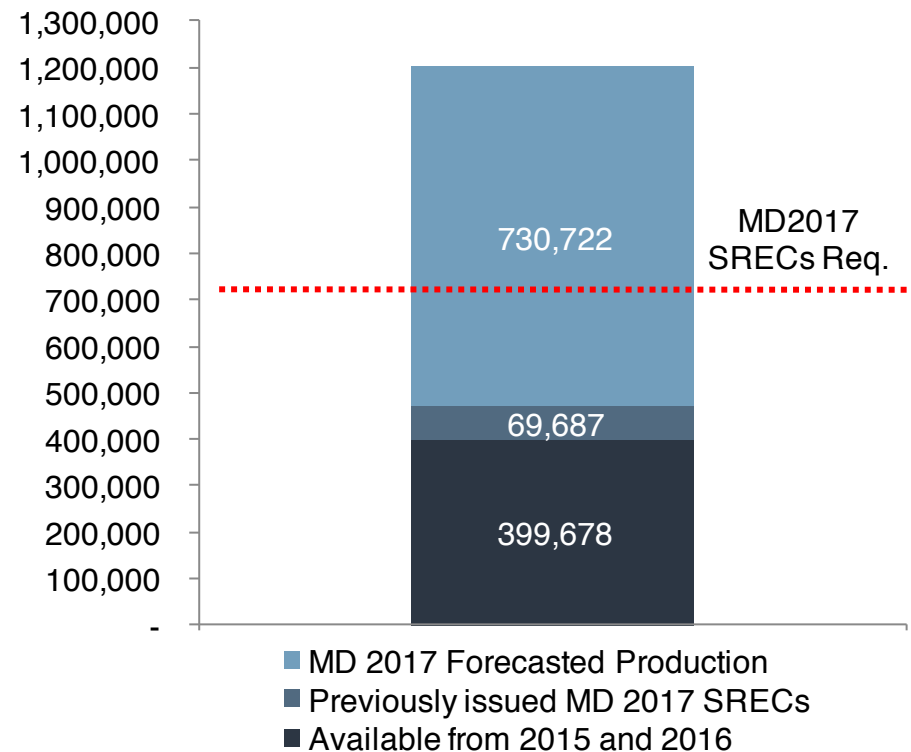
Source: PJM GATS, does not include DC registered capacity; note LTM and LSM data as of April 12, 2017 for systems online through March 2017

MD SREC SUPPLY AND FORECAST



Using GATS issuance data as of 4/12/2017

- 399.7k CY2015 and CY2016 SRECs remain
- 69.7k CY2016 SRECs have already been issued
- At current TTM build rate, remaining CY2017 forecasted generation is 730.7k SRECs
- CY2017 SREC Requirement is 709.4k
- At current TTM build rate, CY2017 estimated oversupply is 490.7k SRECs or approximately 69% over the 2017 SREC compliance obligation



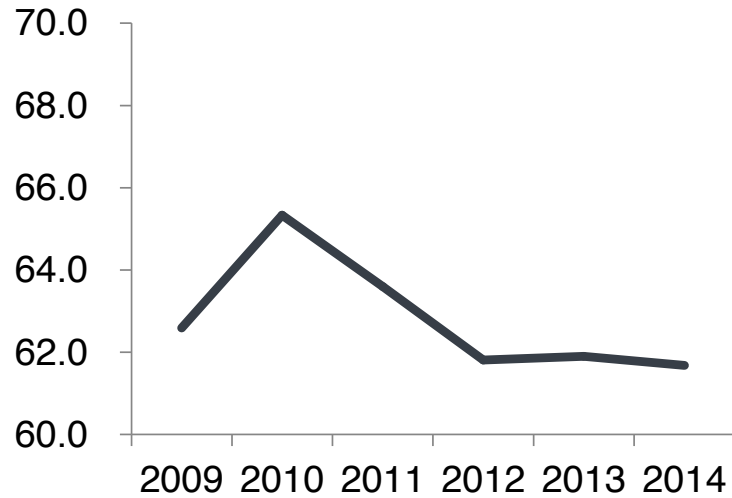
Source: PJM GATS and SRECTrade Estimates.

MD ELECTRICITY SALES (MWh) AND SRECs REQUIRED CURRENT RPS



Recent years have declined or are flat; 2014 = 61.7 mm MWh

Electricity Sales (MWh in millions)



Year	SRECs Required (in 000s)				
	RPS Solar %	0% Growth	1.0% Growth	Diff.	SACP
2015	0.50%	308.4	311.5	3.1	\$ 350
2016	0.70%	431.8	436.1	4.3	\$ 350
2017	0.95%	586.0	591.9	5.9	\$ 200
2018	1.40%	863.6	872.2	8.6	\$ 200
2019	1.75%	1,079.5	1,090.3	10.8	\$ 150

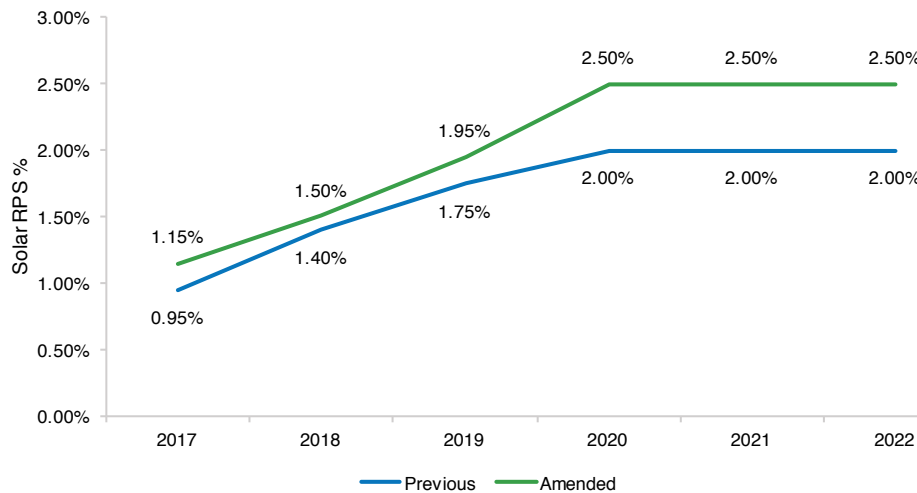
Source: SRECTrade Estimates and EIA Report "Sales to Ultimate Customers (Megawatthours) by State by Sector by Provider, 1990-2014"

PREVIOUS VS NEWLY ADOPTED RPS REQUIREMENTS AND SACP

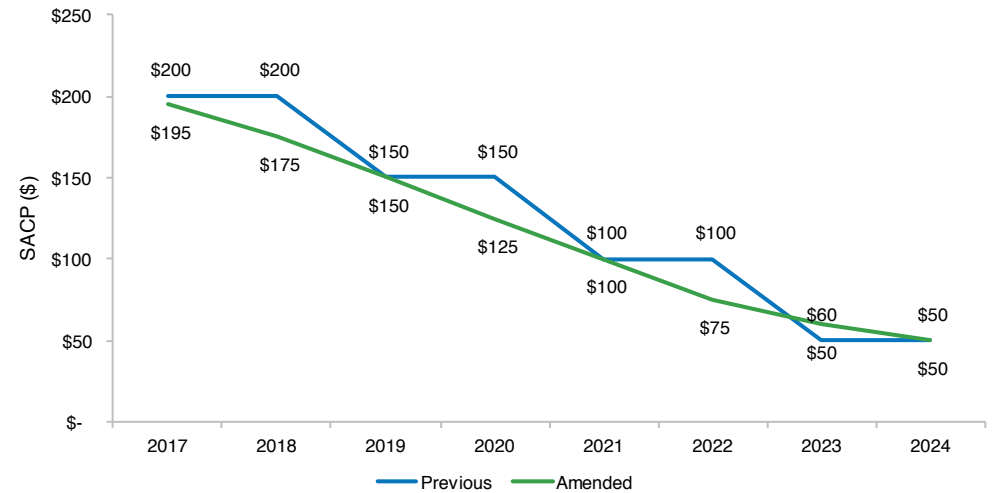


- The following comparison illustrates the difference between the previous MD RPS schedule and the newly adopted Clean Energy Jobs Act (SB0921/HB1106).
- The RPS increase proposed in the Clean Energy Jobs Act (SB0921/HB1106) was vetoed by Governor Hogan in May of 2016, but was eventually passed into law by a successful veto override vote in February 2017.

Maryland RPS % Requirements: Previous vs. Amended



Maryland SACP: Previous vs. Amended



Source: SRECTrade Blog and Bill SB0921 from General Assembly of Maryland. <http://mgaleg.maryland.gov/>

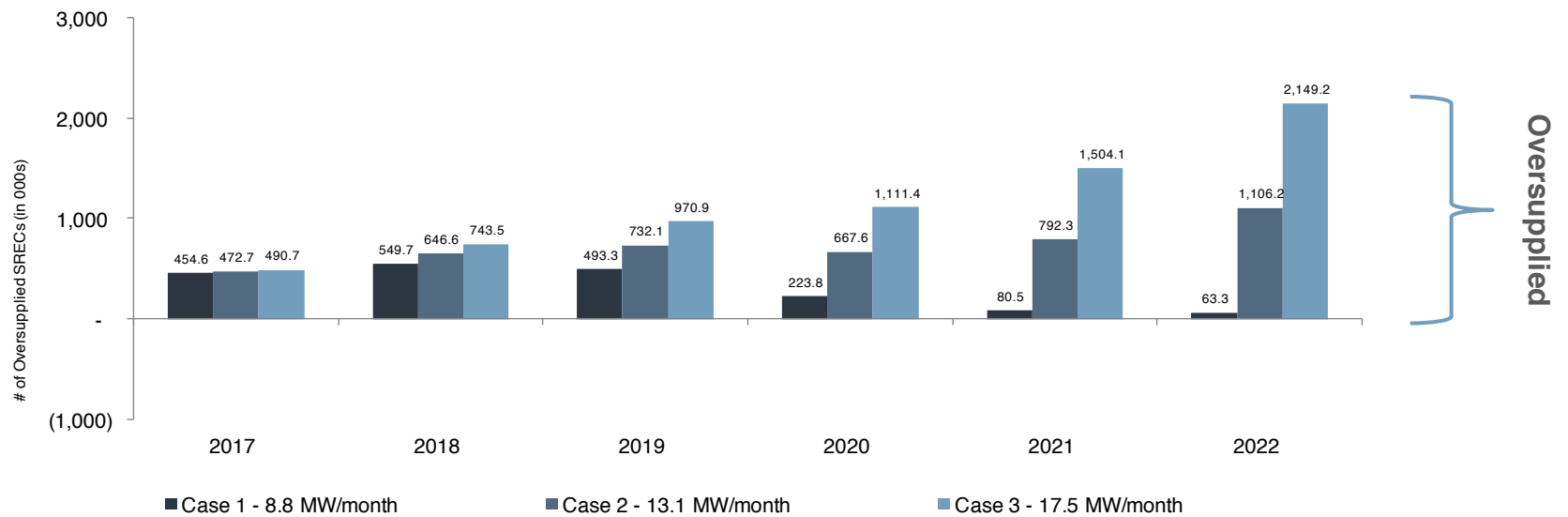
SUPPLY AND DEMAND ASSUMPTIONS



The enclosed analysis assumes the following:

- Load growth remains flat at 61.7 mm MWh per year (source: EIA as of 10/21/2015)
- Exempt load under new RPS not considered, but will impact demand
- Supply (i.e. build forecast) is based on registered projects in PJM GATS as of 4/12/2017 for those projects registered through March 2017
- Scenarios presented are derived from Trailing Twelve Month (TTM) average build rates per month. Due to the likely impact of dramatically depressed SREC prices, we assume that the 100% of TTM “base case” is actually an aggressive bull case, and the other two presented scenarios are of different rates of new capacity deceleration – 50% / 75% / 100% of current TTM build rates per month
- PJM queue (particularly the large scale projects) could certainly further impact the supply forecast in the enclosed scenarios, but is not reflected in the following analysis

SUPPLY / DEMAND SCENARIOS – LOAD SALES FLAT, CURRENT RPS



Energy Year	2017	2018	2019	2020	2021	2022
Estimated % Over (Under) Supplied						
Case 1 - 8.8 MW/month	64.1%	59.4%	41.0%	14.5%	5.2%	4.1%
Case 2 - 13.1 MW/month	66.6%	69.9%	60.9%	43.3%	51.4%	71.7%
Case 3 - 17.5 MW/month	69.2%	80.4%	80.7%	72.1%	97.5%	139.4%

Source: SRECTrade Estimates. Assumes MSM begins selling 2015+ vintages.

SUPPLY / DEMAND SCENARIOS – LOAD SALES FLAT, AMENDED RPS



Case 1 - 75% of LTM Average MW Added Per Month Throughout the Forecast	2017	2018	2019	2020	2021	2022
MD SREC Requirements	709,364	925,258	1,202,835	1,542,097	1,542,097	1,542,097
Less: Excess SRECs From Prior Period	399,678	454,616	549,688	493,323	223,835	80,487
Less: Case 1 Estimated SRECs Produced	764,303	1,020,330	1,146,470	1,272,609	1,398,749	1,524,888
# of SRECs Under / (Over) Supplied	(454,616)	(549,688)	(493,323)	(223,835)	(80,487)	(63,279)
Case 2 - LTM Average MW Added Remains the Same Per Month Throughout the Forecast	2017	2018	2019	2020	2021	2022
MD SREC Requirements	709,364	925,258	1,202,835	1,542,097	1,542,097	1,542,097
Less: Excess SRECs From Prior Period	399,678	472,669	646,579	732,120	667,609	792,308
Less: Case 2 Estimated SRECs Produced	782,356	1,099,168	1,288,377	1,477,586	1,666,795	1,856,004
# of SRECs Under / (Over) Supplied	(472,669)	(646,579)	(732,120)	(667,609)	(792,308)	(1,106,216)
Case 3 - 150% of LTM Average MW is Added Per Month Throughout the Forecast	2017	2018	2019	2020	2021	2022
MD SREC Requirements	709,364	925,258	1,202,835	1,542,097	1,542,097	1,542,097
Less: Excess SRECs From Prior Period	399,678	490,723	743,469	970,918	1,111,383	1,504,128
Less: Case 3 Estimated SRECs Produced	800,409	1,178,005	1,430,284	1,682,563	1,934,842	2,187,121
# of SRECs Under / (Over) Supplied	(490,723)	(743,469)	(970,918)	(1,111,383)	(1,504,128)	(2,149,152)

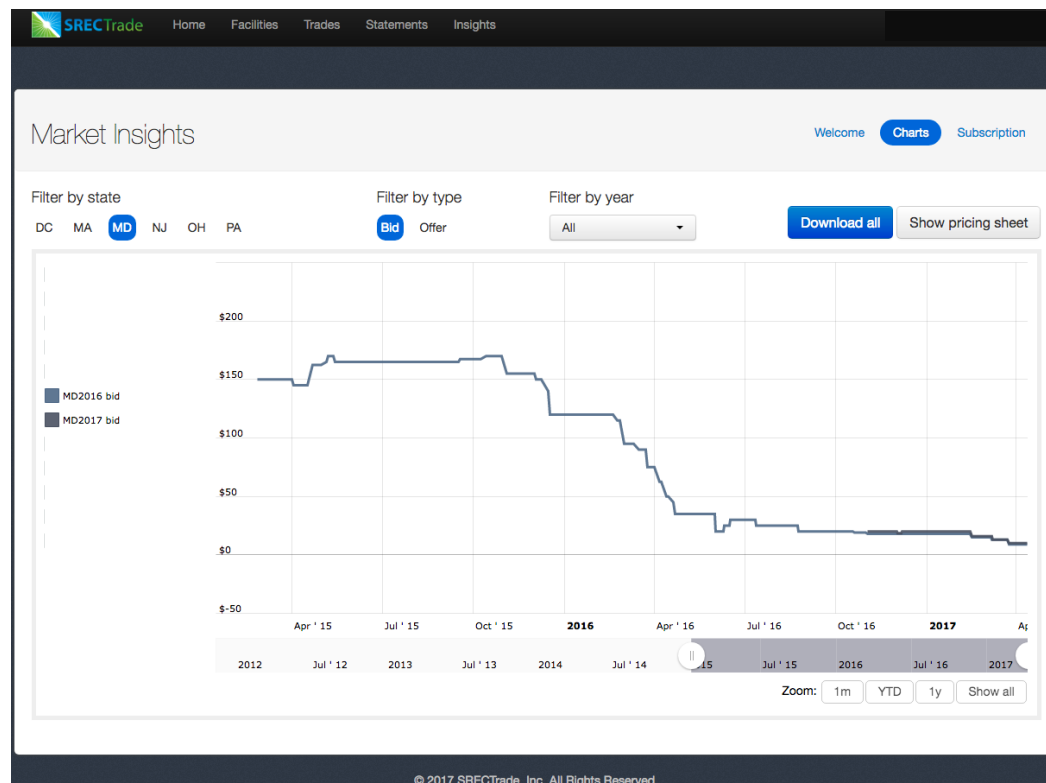
Source: SRECTrade Estimates

MD SREC HISTORICAL SPOT PRICING



MD2016 market: \$7 @ \$10

MD2017 market: \$8 @ \$11



Source: SRETrade Market Insights