



NJ Solar Market Update

As of 10/31/15

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Renewable Energy Committee Meeting
November 10, 2015

SOLAR INSTALLED CAPACITY DATA



- The preliminary installed solar capacity as of 10/31/15 is approximately 1,556.7 MW.
 - Approximately 10.35 MW reported as installed in October.
 - 40,573 solar installations
- The preliminary solar project pipeline capacity as of 10/31/15 is approximately 428.3 MW.
 - 9,927 projects in solar pipeline

For program reporting purposes, projects have achieved the "Installed" designation when the Final as-built documents are received and accepted by the Market Manager (noted as QC or QA Selected status in the project list).

SOLAR INSTALLED CAPACITY DATA



- The 2015 Year to date installed capacity is 69% of the 2014 YTD value at the same point (124.9 MW vs. 181.2 MW in 2014).
- A comparison of the solar capacity added in the two most recently completed quarters is as follows:
 - Q2 2015 = 31.0 MW Q3 2015 = 45.5 MW
 - Percent change: Increase of approximately 46.6%

NJCEP SOLAR INSTALLED PROJECTS PLUS PIPELINE HISTORY AS OF 10/31/15



As Of	MW Installed	MW Pipeline	Combined MW
6/30/2014	1,319.2	345.7	1,664.9
7/31/2014	1,336.8	358.3	1,695.1
8/31/2014	1,344.6	361.5	1,706.1
9/30/2014	1,354.0	359.2	1,713.3
10/31/2014	1,365.7	377.1	1,742.8
11/30/2014	1,373.4	391.9	1,765.3
12/31/2014	1,431.9	351.9	1,783.9
1/31/2015	1,438.9	355.8	1,794.6
2/28/2015	1,456.6	349.8	1,806.4
3/31/2015	1,469.7	395.8	1,865.5
4/30/2015	1,478.8	389.1	1,867.9
5/31/2015	1,486.3	406.3	1,892.6
6/30/2015	1,500.7	402.9	1,903.6
7/31/2015	1,513.7	409.1	1,922.8
8/31/2015	1,534.4	412.7	1,947.1
9/30/2015	1,546.2	430.3	1,976.5
10/31/2015	1,556.7	428.3	1,985.0

Preliminary values for 10/31/15

NJCEP SOLAR INSTALLED PROJECTS PLUS PIPELINE PROJECTS SUMMARY



Preliminary Values As of 10/31/15

Installed Solar Projects

Interconnection Type	Project Qty	Total Capacity (KW DC)	Percent of Capacity	Avg System Size (kW DC)
Behind the meter	40,444	1,219,208.2	78.3%	30.1
Direct Grid Supply	129	337,516.9	21.7%	2,616.4
Installed Totals	40,573	1,556,725.1	100.0%	38.4

Solar Project Pipeline

Interconnection Type	Project Qty	Total Capacity (KW DC)	Percent of Capacity	Avg System Size (kW DC)
Behind the meter	9,890	147,175.7	34.4%	14.9
Direct Grid Supply	37	281,116.1	65.6%	7,597.7
Pipeline Totals	9,927	428,291.7	100.0%	43.1

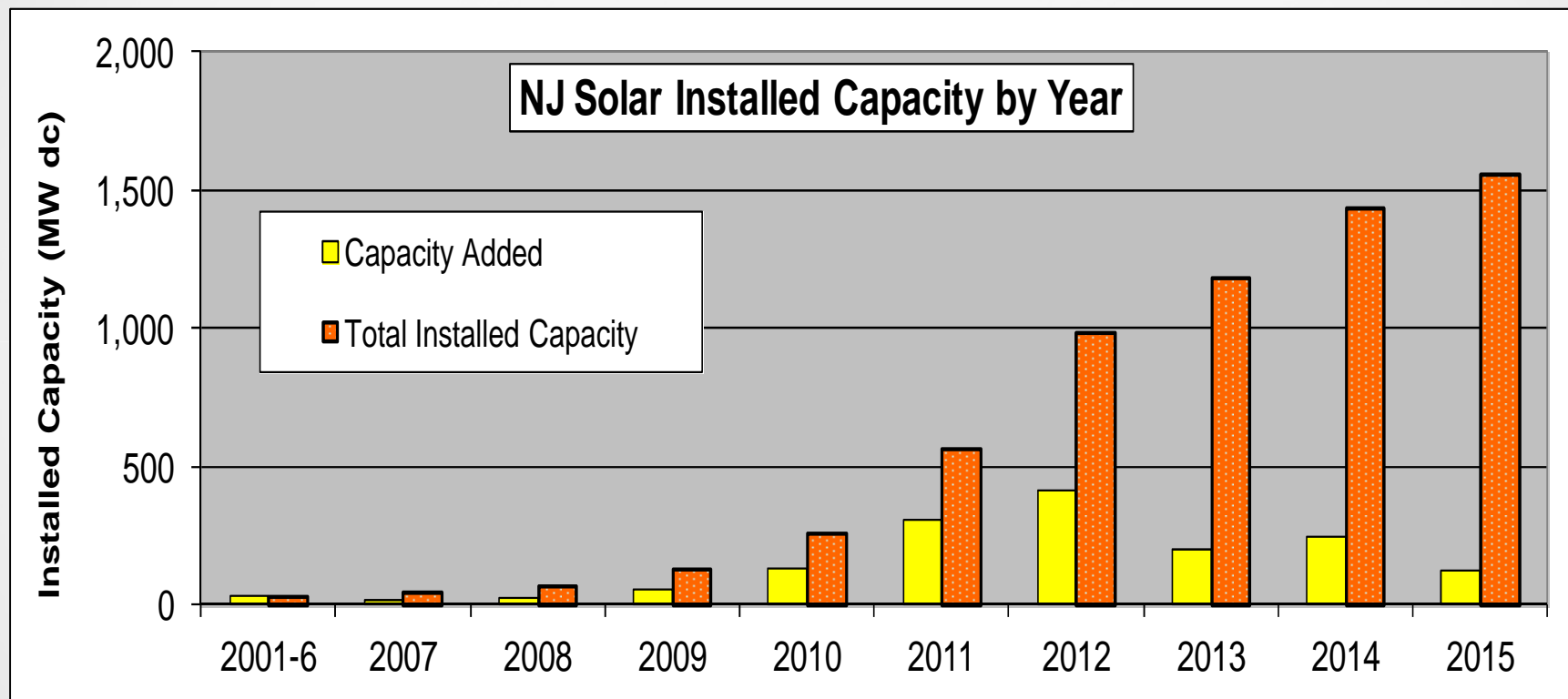
Totals For All Projects	50,500	1,985,016.8		39.3
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NEW JERSEY SOLAR INSTALLATIONS BY YEAR AS OF 10/31/15

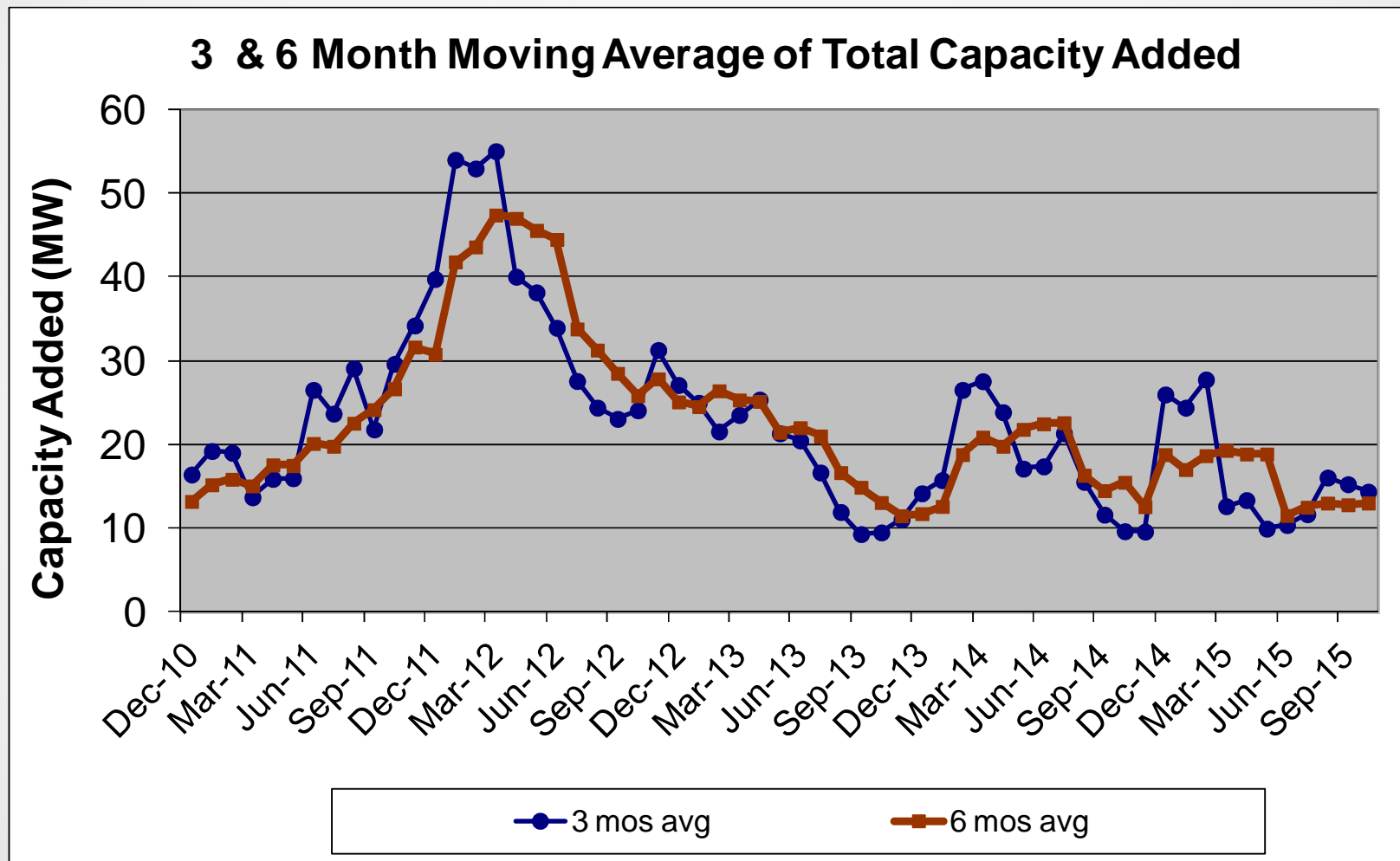


Year	# Projects	Total kW	Total Rebate \$
2001-06	2,020	31,987.3	\$ 142,689,908
2007	693	15,255.1	\$ 58,122,386
2008	833	22,711.3	\$ 44,923,416
2009	1,349	57,254.3	\$ 56,017,442
2010	3,131	132,378.7	\$ 45,961,190
2011	5,397	305,199.0	\$ 13,383,747
2012	5,902	417,327.4	\$ 2,389,758
2013	6,538	202,227.6	\$ 4,691
2014	6,520	247,423.9	\$ -
2015	8,190	124,960.7	\$ -
Total	40,573	1,556,725.1	\$ 363,492,538

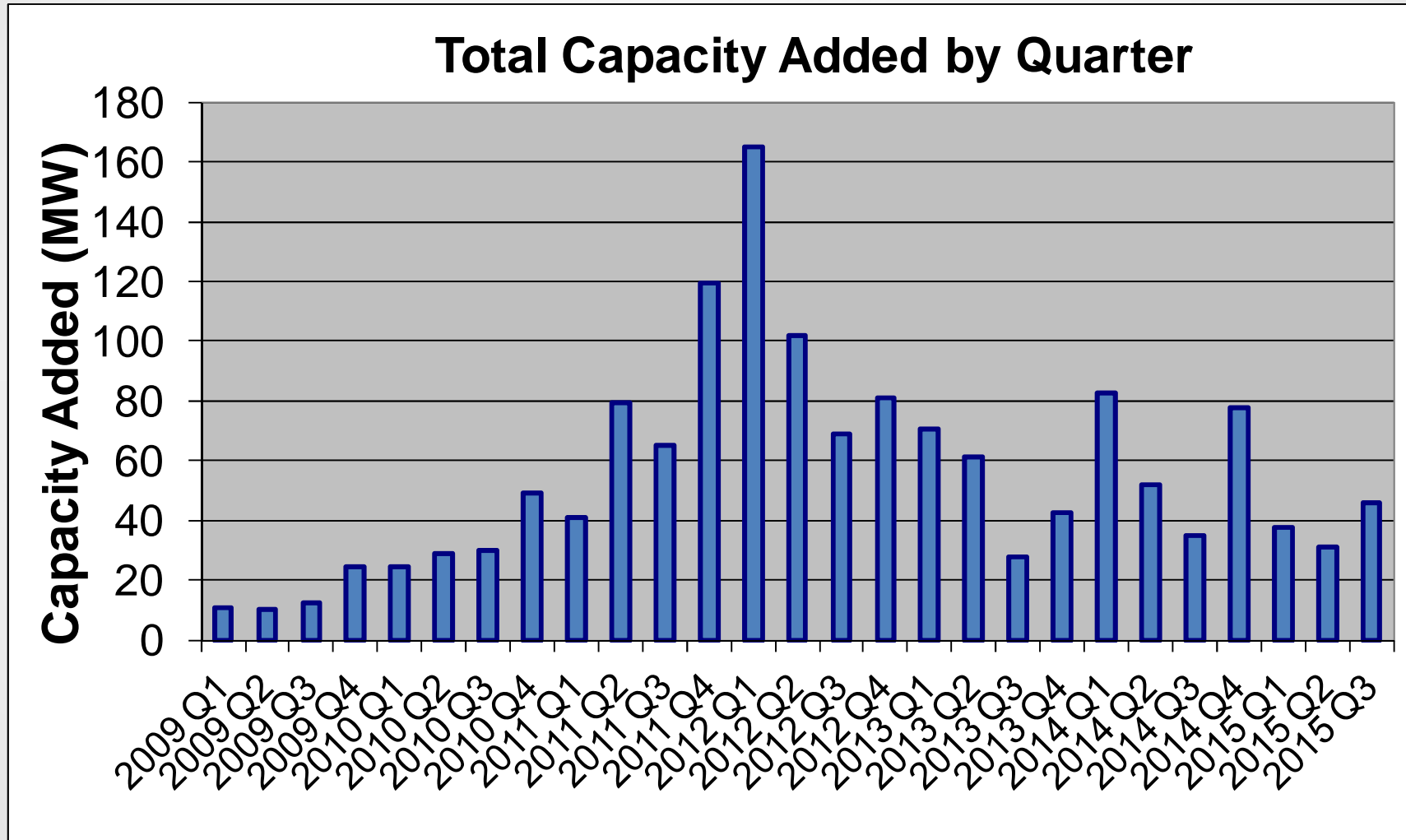
NEW JERSEY SOLAR INSTALLATIONS BY YEAR AS OF 10/31/15



NEW JERSEY SOLAR INSTALLATIONS MOVING AVERAGE AS OF 10/31/15



NEW JERSEY SOLAR INSTALLATIONS CAPACITY ADDED BY QUARTER



NJCEP DIRECT GRID SUPPLY SOLAR PROJECT SUMMARY



NJCEP Direct Grid Supply Solar Installed Projects As Of 10/31/15			
Description	Project Qty	Total Capacity (KW dc)	Percent of Capacity
EDC Projects	76	78,465.1	23.3%
Subsection q	13	76,537.7	22.7%
Subsection r	-	-	0.0%
Subsection s	3	12,687.7	3.8%
Subsection t	4	47,300.7	14.0%
Other	33	122,525.7	36.3%
Installed Totals	129	337,516.9	100.0%

NJCEP DIRECT GRID SUPPLY SOLAR PROJECT SUMMARY



NJCEP Direct Grid Supply Solar Project Pipeline As Of 10/31/15			
Description	Project Qty	Total Capacity (KW dc)	Percent of Capacity
EDC Projects	1	882.3	0.3%
Subsection q	21	137,088.8	48.8%
Subsection r	-	-	0.0%
Subsection s	5	41,900.0	14.9%
Subsection t	6	58,143.3	20.7%
Other	4	43,101.7	15.3%
Pipeline Totals	37	281,116.1	100.0%

NJCEP DIRECT GRID SUPPLY SOLAR PROJECT SUMMARY



NJCEP Subsection q Project Summary By Energy Year As Of 10/31/15

Energy Year	Subsection q Installed Projects		Subsection q Project Pipeline		Subsection q Installed Projects Plus Pipeline Projects	
	Project Qty	Total Capacity (KW dc)	Project Qty	Total Capacity (KW dc)	Project Qty	Total Capacity (KW dc)
EY14	10	60,131.3	3	11,860.0	13	71,991.3
EY15	3	16,406.4	9	63,422.8	12	79,829.2
EY16	-	-	9	61,806.0	9	61,806.0
Totals	13	76,537.7	21	137,088.8	34	213,626.4

One Subsection q EY14 project was deactivated in October.

NJCEP Solar Generation Scenarios – EY 2015-2017



Assumptions used in forecast of capacity added for each EY

EY	Estimated Monthly BTM Capacity Added (kW/Month)			Estimated Monthly Grid Supply Capacity Added (kW/Month)			Estimated Total Capacity Added (kW/Month)		
	Low	Med	High	Low	Med	High	Low	Med	High
EY2015	9,800	9,800	9,800	5,900	5,900	5,900	15,700	15,700	15,700
EY2016	10,000	13,200	19,500	9,500	13,000	15,000	19,500	26,200	34,500
EY2017	10,200	14,000	20,900	8,000	10,000	11,500	18,200	24,000	32,400

EY	Estimated Annual BTM Capacity Added (kW/Year)			Estimated Annual Grid Supply Capacity Added (kW/Year)			Estimated Total Capacity Added (kW/Year)		
	Low	Med	High	Low	Med	High	Low	Med	High
EY2015	117,490	117,490	117,490	70,800	70,800	70,800	188,290	188,290	188,290
EY2016	120,000	158,400	234,000	114,000	156,000	180,000	234,000	314,400	414,000
EY2017	122,400	168,000	250,800	96,000	120,000	138,000	218,400	288,000	388,800

NJCEP Solar Generation Scenarios – EY 2015-2017



Estimated Total Capacity Added = Behind The Meter (BTM) Capacity Added + Grid Supply Capacity Added

Low, Med, High Assumptions used in forecast of annual capacity added for EY 2016 & EY 2017:

Low	Based upon 102% of the EY2015 BTM install rate with 2% growth from EY16 to EY17 plus annual additions from the grid supply table above.	Avg BTM monthly kW capacity added during EY2015 =	9,800
Med	Based upon 109% of the 2 year historical run rate for BTM installs with 6% growth from EY16 to EY17 plus annual additions from grid supply table above.	Avg BTM monthly kW capacity added for previous 2 Years =	12,150
High	Based upon 115% of the 4 year historical run rate for BTM installs with 7% growth from EY16 to EY17 plus annual additions from grid supply table above.	Avg BTM monthly kW capacity added for previous 4 Years =	16,990

Annual output calculation is based upon 1,200 kWh/kW with heavier weighting of summer months and lower weighting of winter months.

NJCEP Solar Generation Scenarios – EY 2015-2017



NJ Solar RPS Requirement By Energy Year				
Energy Yr	Retail Sales Est (MWh)	RPS %	Est RPS Req (MWh)	Retail Sales estimates used to estimate RPS MWh requirement for EY 2015-2017
2015	76,131,351	2.45%	1,865,218	
2016	76,500,000	2.75%	2,103,750	
2017	76,600,000	3.00%	2,298,000	

Estimated SRECs Available By Energy Year - 3 Scenarios As of 10/31/15				
Energy Yr	RPS Req	Low	Med	High
2013	596,000	1,417,578	1,417,578	1,417,578
2014	1,568,508	2,252,978	2,252,978	2,252,978
2015	1,865,218	2,368,870	2,368,870	2,368,870
2016	2,103,750	2,415,852	2,436,052	2,461,052
2017	2,298,000	2,502,902	2,630,102	2,797,902

NJCEP Solar Generation Scenarios – EY 2014-2015



Energy Yr	Item	Low	Med	High
EY2014 (Historical)	SRECs Issued by PJM GATS	1,431,400	1,431,400	1,431,400
	Estimated SRECs Available	2,252,978	2,252,978	2,252,978
	RPS Req	1,568,508	1,568,508	1,568,508
	% of RPS Requirement	143.6%	143.6%	143.6%
	SREC Carryover	684,470	684,470	684,470
EY2015	Est Capacity Added (MW/EY)	188.3	188.3	188.3
	Est SREC Generation in EY	1,684,400	1,684,400	1,684,400
	Estimated SRECs Available	2,368,870	2,368,870	2,368,870
	RPS Req	1,865,218	1,865,218	1,865,218
	% of RPS Requirement	127.0%	127.0%	127.0%
	SREC Carryover	503,652	503,652	503,652

NJCEP Solar Generation Scenarios – EY 2016-2017

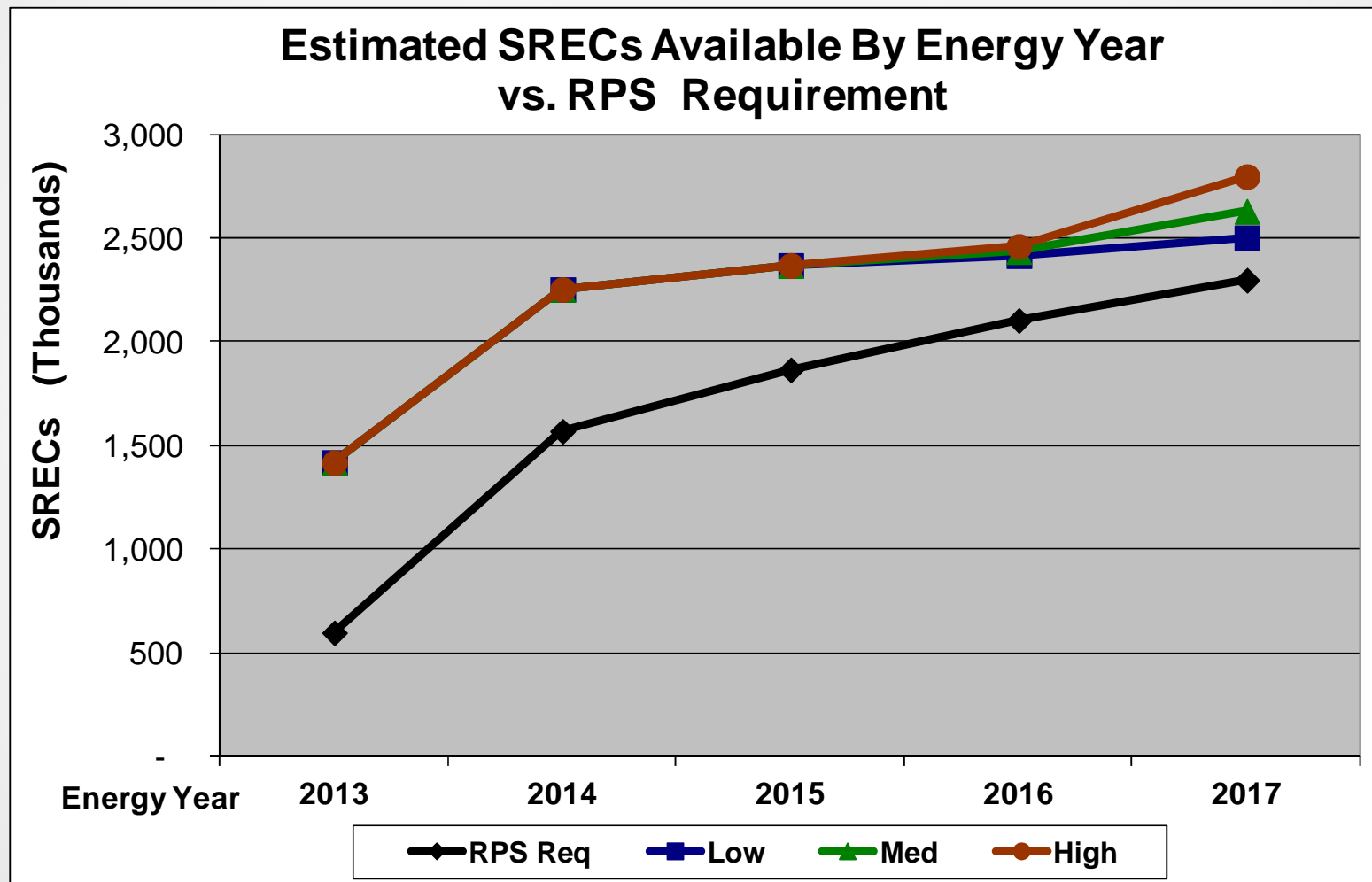


Energy Yr	Item	Low	Med	High
EY2016	Est Capacity Added (MW/EY)	234.0	314.4	414.0
	Est SREC Generation in EY	1,912,200	1,932,400	1,957,400
	Estimated SRECs Available	2,415,852	2,436,052	2,461,052
	RPS Req	2,103,750	2,103,750	2,103,750
	% of RPS Requirement	114.8%	115.8%	117.0%
	SREC Carryover	312,102	332,302	357,302
EY2017	Est Capacity Added (MW/EY)	218.4	288.0	388.8
	Est SREC Generation in EY	2,190,800	2,297,800	2,440,600
	Estimated SRECs Available	2,502,902	2,630,102	2,797,902
	RPS Req	2,298,000	2,298,000	2,298,000
	% of RPS Requirement	108.9%	114.5%	121.8%
	SREC Carryover	204,902	332,102	499,902

The Estimated SRECs Available for each Energy Year in the table above consists of the estimated unretired SRECs generated in previous Energy Years that have remaining eligibility (carry over) plus SRECS that are estimated to be issued based upon electricity generated during each Energy Year listed in the table.

This data is provided for informational purposes only. Past levels of installed capacity rates are not predictive of future values, and any persons considering investment in the solar market should perform their independent due diligence.

NJCEP Solar Generation Scenarios – EY 2013-2017

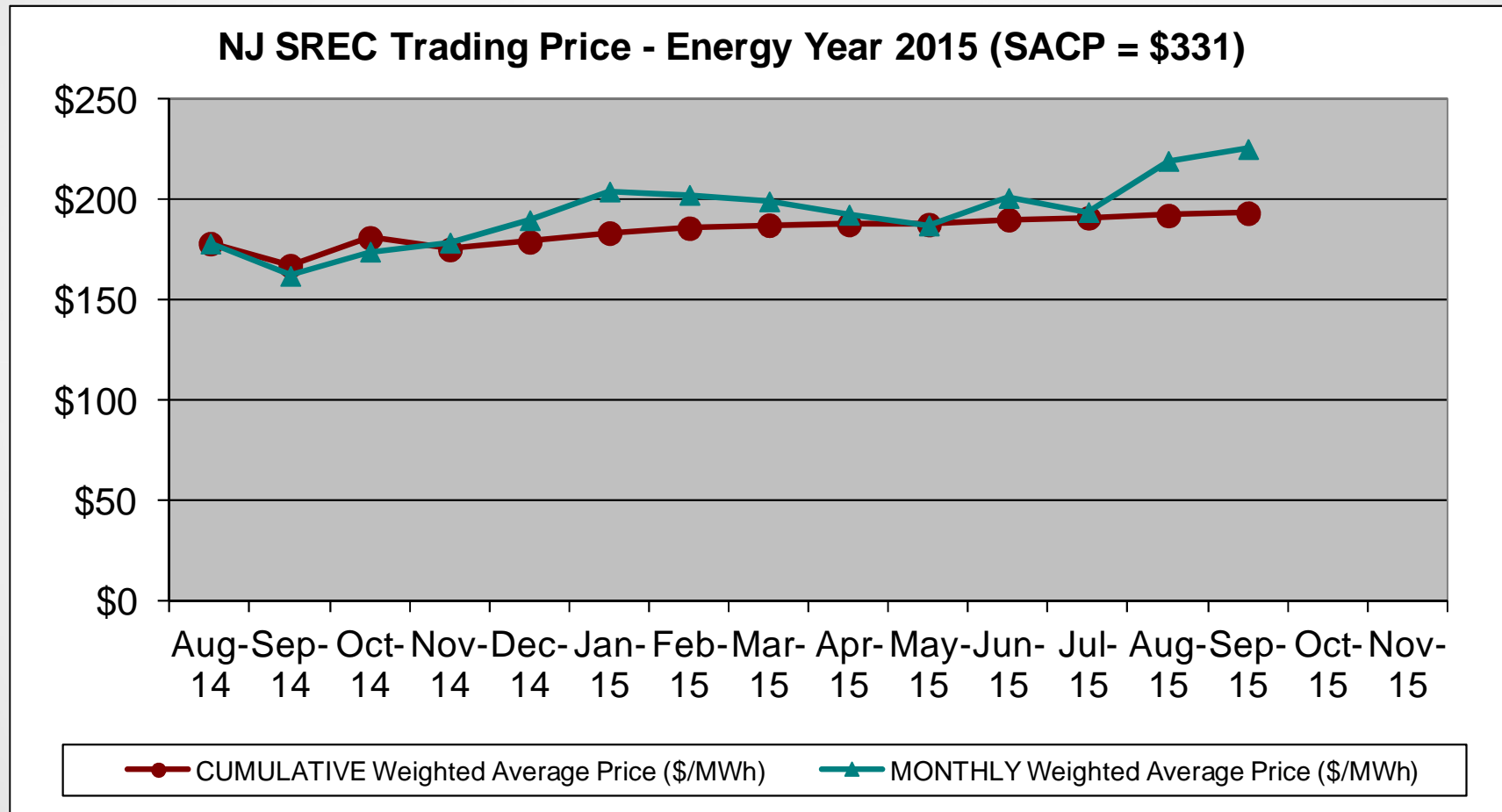


SREC TRADING STATISTICS ENERGY YEAR 2015



EY 2015 SACP= \$331			SREC Quantity		Monthly		Cumulative	
Month	Year	Active kW DC	Issued in Month	Traded in Month	High (\$/MWh)	Low (\$/MWh)	# of SRECs Traded	Weighted Avg Price (\$/MWh)
Sept	2015	1,480,444	6,266	96,331	\$ 250	\$ 110	2,748,321	\$193.42
Aug	2015	1,469,017	12,528	104,982	\$ 480	\$ 83	2,651,990	\$192.25
July	2015	1,462,606	19,948	650,499	\$ 500	\$ 40	2,547,008	\$191.13
June	2015	1,452,066	213,825	345,133	\$ 485	\$ 70	1,896,509	\$190.17
May	2015	1,438,102	180,995	202,367	\$ 485	\$ 95	1,551,376	\$187.76
Apr	2015	1,430,241	115,679	95,912	\$ 490	\$ 70	1,349,009	\$187.82
Mar	2015	1,421,095	85,161	141,976	\$ 495	\$ 48	1,253,097	\$187.45
Feb	2015	1,414,169	74,497	142,317	\$ 488	\$ 67	1,111,121	\$185.93
Jan	2015	1,369,616	62,856	169,175	\$ 590	\$ 46	968,804	\$183.49
Dec	2014	1,353,266	98,501	208,575	\$ 486	\$ 70	799,629	\$179.11
Nov	2014	1,346,115	103,381	139,726	\$ 518	\$ 41	591,054	\$175.31
Oct	2014	1,337,353	152,339	226,727	\$ 518	\$ 70	451,328	\$181.15
Sept	2014	1,320,298	164,188	153,637	\$ 518	\$ 70	224,601	\$167.25
Aug	2014	1,314,733	163,745	66,311	\$ 518	\$ 70	70,964	\$178.25
July	2014	1,309,850	150,158	4,653	Due to low trade volume, the July trades are reported with the pricing data for August.			
	Total		1,604,067	2,748,321				

SREC TRADING STATISTICS ENERGY YEAR 2015





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