



# **Initiation of a Proceeding to Investigate Approaches to Mitigate Solar Development Volatility pursuant to N.J.S.A. 48:3-87(d)(3)(a)**

**Charlie Garrison  
November 9, 2012  
10:15-10:45 am  
NJDEP Public Hearing Room  
Trenton, NJ**



# Sources Of Solar Market Data

- Sources of solar market data
  - SREC Registration Program projects
  - CORE & REIP Solar projects
  - PJM GATS website & data file
- Types of solar market data
  - Project quantity
  - Total capacity (MW)
  - Estimated generation (MWh)
  - SRECs



# Uses Of Solar Market Data

- Uses of solar market data
  - Data and reports are made available on a monthly basis via:
    - the RE Committee meetings,
    - email to the RE distribution list and
    - postings on the NJCEP website



# Analysis Of Solar Market Data

- Provide summary of installed capacity by:
  - Year and month
  - Direct grid supply & behind the meter
  - Market segment
  - Program & County
- Provide summary of project pipeline capacity by:
  - Direct grid supply & behind the meter
  - Project scrub rate



# Analysis Of Solar Market Data

- Forecast of future installed capacity
- Estimated SREC generation by Energy Year
- Estimated RPS compliance by Energy Year
- Other analysis as requested by the OCE



# Analysis Of Solar Market Data

- SREC Trading Statistics by Energy Year
  - Cumulative Weighted Avg Price (CWAP)
  - Monthly average trading price
  - Active kW DC registered at GATS
  - SRECs Issued in Month
  - SRECs Traded in Month
  - High & Low trade values (\$/MWh)



# NJCEP Solar Market Reports as of 9/30/12



## Solar Installed Capacity Data

- The installed solar capacity as of 9/30/12 is approximately 900.9 MW.
  - Approximately 24.8 MW installed in current month.
- The solar capacity project pipeline as of 9/30/12 is approximately 740 MW.
  - The pipeline capacity decreased approximately 67 MW from 807 MW on 8/31/12.





# NJCEP Solar Pipeline Plus Installed Projects History

<b>NJCEP Solar Pipeline Plus Installed Projects History as of 9/30/12</b>			
<b>As Of</b>	<b>MW Installed</b>	<b>MW Pipeline</b>	<b>Combined MW</b>
7/31/2011	399.9	465.3	865.2
8/31/2011	430.4	541.2	971.6
9/30/2011	447.7	569.3	1,017.0
10/31/2011	490.5	571.7	1,062.2
11/30/2011	531.7	599.4	1,131.1
12/31/2011	565.9	618.7	1,184.6
1/31/2012	649.9	548.0	1,197.1
2/29/2012	688.3	542.3	1,231.4
3/31/2012	730.0	526.1	1,256.5
4/30/2012	770.0	510.0	1,280.0
5/31/2012	802.8	560.7	1,363.5
6/30/2012	831.9	590.3	1,422.2
7/31/2012	852.6	756.2	1,608.8
8/31/2012	876.1	806.9	1,683.0
9/30/2012	900.8	740.0	1,640.8

Preliminary values for 9/30/12



# Solar Capacity By Interconnection Type

## Installed Solar Projects as of 9/30/12

Interconnection Type	Qty	System Size (kW)	Percent	Avg System Size (kW)
Behind the meter	18,003	708,472.1	78.6%	39.4
Direct Grid Supply	91	192,425.7	21.4%	2,114.6
Totals	18,094	900,897.8	100.0%	49.8

## Solar Project Pipeline as of 9/30/12

Interconnection Type	Qty	System Size (kW)	Percent	Avg System Size (kW)
Behind the meter	4,607	271,239.7	36.7%	58.9
Direct Grid Supply	51	468,840.6	63.3%	9,193.0
Totals	4,658	740,080.3	100.0%	158.9

Totals For All Projects	22,752	1,640,978.1		72.1
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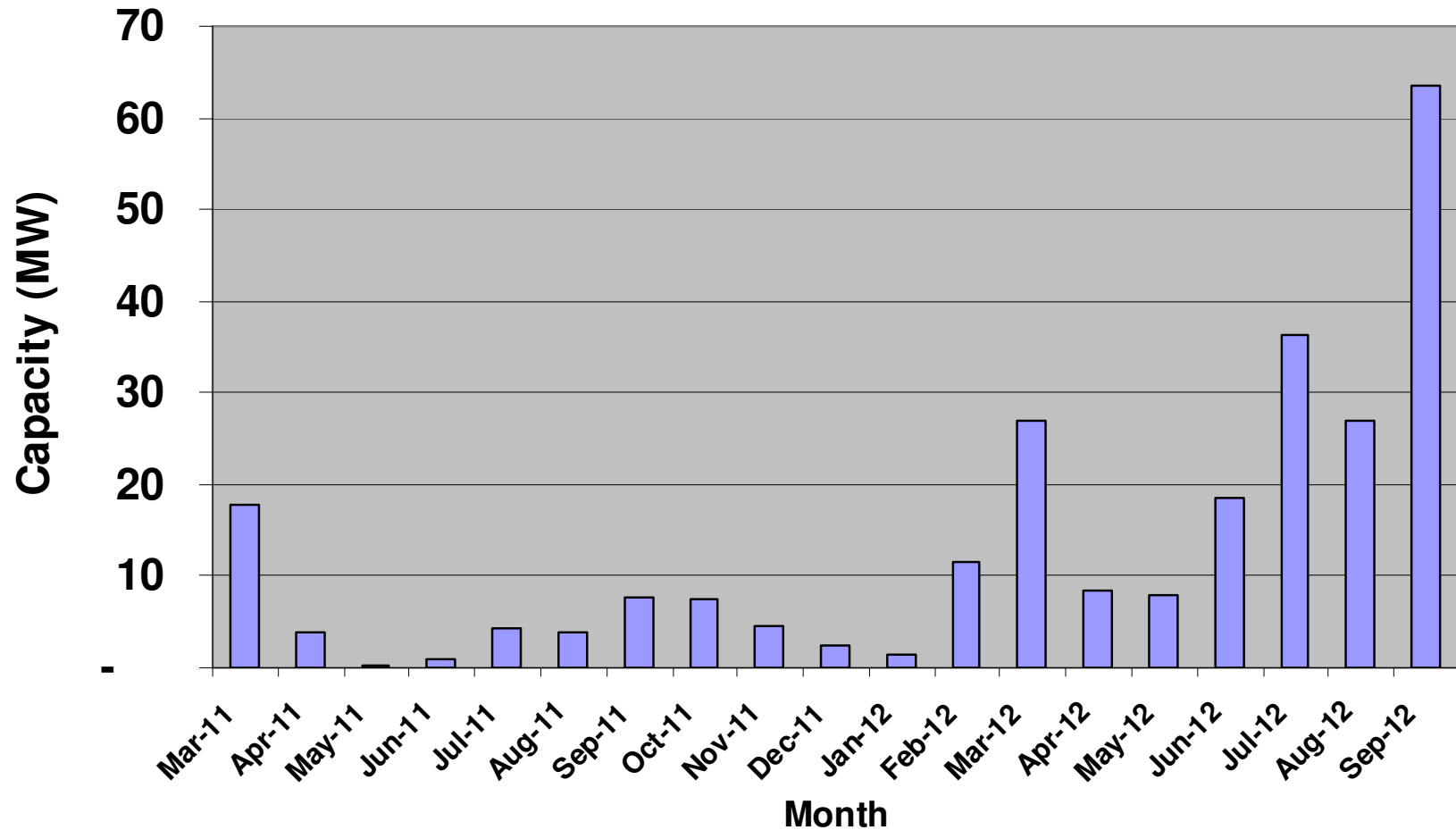
# SRP Deactivations by Month

Year	Month End	Project Qty	Capacity (kW)
2011	Jun-11	4	859
2011	Jul-11	48	4,433
2011	Aug-11	29	3,941
2011	Sep-11	77	7,604
2011	Oct-11	120	7,485
2011	Nov-11	46	4,689
2011	Dec-11	81	2,493
2012	Jan-12	40	1,496
2012	Feb-12	86	11,552
2012	Mar-12	150	26,976
2012	Apr-12	116	8,323
2012	May-12	133	7,928
2012	Jun-12	122	18,540
2012	Jul-12	228	36,383
2012	Aug-12	148	27,004
2012	Sep-12	349	63,495



# SRP Deactivations by Month

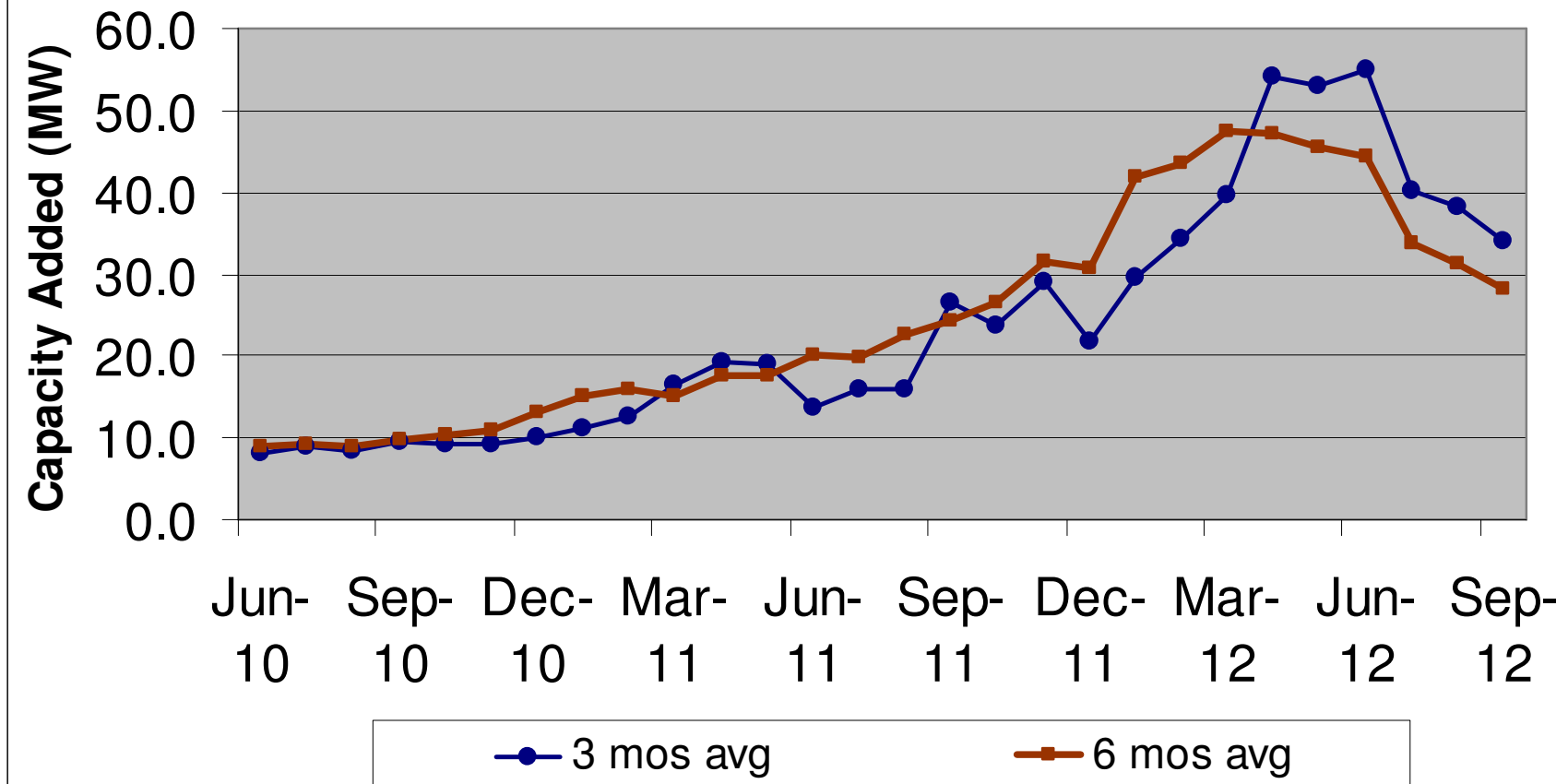
## SRP Deactivations by Month 3/2011 to 9/2012





# NJCEP Moving Average of Solar Capacity Added

## 3 & 6 Month Moving Average of Capacity Added





# NJCEP Solar Installed Capacity Forecast - As of 9/30/12

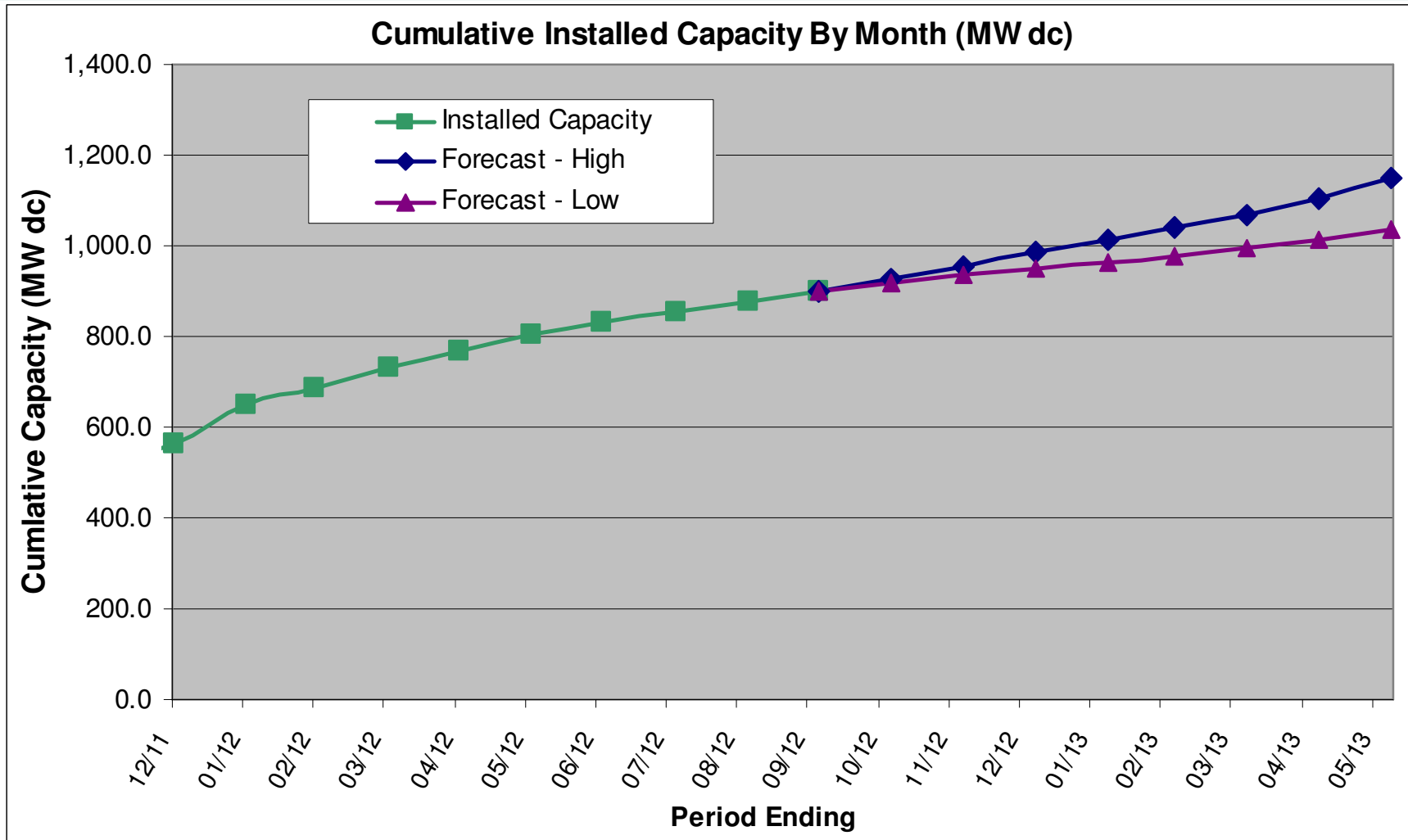
Cumulative Installed Capacity (MW dc)													
End Date	05/31/12	06/30/12	07/31/12	08/31/12	09/30/12	10/31/12	11/30/12	12/31/12	01/31/13	02/28/13	03/31/13	04/30/13	05/31/13
Forecast - Low	802.8	831.9	852.7	876.1	900.9	917.9	934.9	950.9	965.9	978.9	993.9	1,011.9	1,038.5
Forecast - High	802.8	831.9	852.7	876.1	900.9	927.9	955.9	984.9	1,011.9	1,038.9	1,068.9	1,102.9	1,151.0

The 900.9 MW of solar capacity installed as of 9/30/12 and the additionally forecast installed solar capacity for the remainder of Energy Year 2013 is estimated to be capable of producing approximately 1,100,000 to 1,134,800 SRECs during Energy Year 2013.

*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 Installed Capacity Forecast - As of 9/30/12





# Preliminary Solar Installed Capacity

- The preliminary installed solar capacity as of 10/31/12 is approximately 917 MW.
  - Approximately 16.4 MW installed in current month
  - PSE&G PAS not included
- The preliminary solar capacity project pipeline as of 10/31/12 is approximately 739 MW.
  - The pipeline capacity was 740 MW on 9/30/12.
- Installed plus pipeline is 1,656 MW (was 1,640 on 9/30).





# NJCEP Solar Generation Forecast

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# NJCEP Solar Generation Forecast

## RPS Requirement By Energy Year

Energy Yr	RPS Req	Status
2012	442,000	Actual
2013	596,000	Actual
2014	1,660,500	Estimated
2015	1,984,500	Estimated
2016	2,227,500	Estimated

Energy Yr	Retail Sales Est (MWh)	RPS %	Est RPS Req (MWh)
2014	81,000,000	2.05%	1,660,500
2015	81,000,000	2.45%	1,984,500
2016	81,000,000	2.75%	2,227,500

Note: The Retail Sales estimates shown above were used to estimate RPS MWh requirement for EY 2014-2016



# NJCEP Solar Generation Forecast

## Forecasted MW Capacity Added By Energy Year - As of 09/30/12

Energy Yr	Low	Med	High
2012	442.0	442.0	442.0
2013	241.9	274.9	332.9
2014	292.7	443.6	576.6
2015	216.0	270.0	337.5
2016	182.3	202.5	253.1

### Assumptions used in forecast of annual capacity added for each EY expressed as a percent of RPS requirement

Energy Yr	Low	Med	High
2012	390%	390%	390%
2013	188%	214%	259%
2014	33%	50%	65%
2015	80%	100%	125%
2016	90%	100%	125%

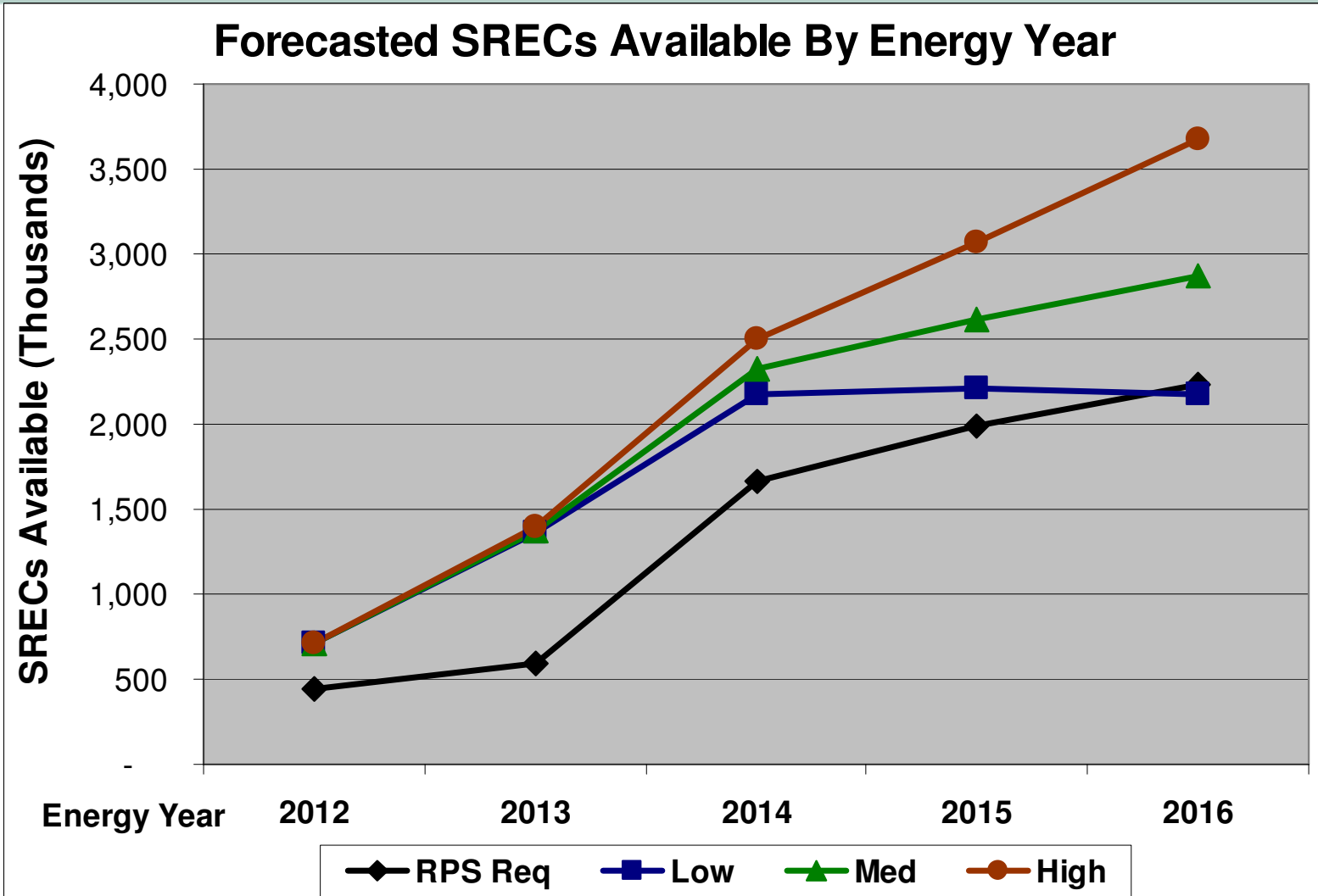


# NJCEP Solar Generation Forecast Summary By Energy Year - As of 9/30/12

Energy Yr (RPS Req)	Item	Low	Med	High
<b>EY2012 (442 GWh)</b>	Est Avail (MWh)	704,688	704,688	704,688
	% of RPS Requirement	<b>159.4%</b>	<b>159.4%</b>	<b>159.4%</b>
	MW Difference	218.9	218.9	218.9
<b>EY2013 (596 GWh)</b>	Est Avail (MWh)	1,362,688	1,375,588	1,397,488
	% of RPS Requirement	<b>228.6%</b>	<b>230.8%</b>	<b>234.5%</b>
	MW Difference	638.9	649.7	667.9
<b>EY2014 (1660.5 GWh)</b>	Est Avail (MWh)	2,170,088	2,319,988	2,497,388
	% of RPS Requirement	<b>130.7%</b>	<b>139.7%</b>	<b>150.4%</b>
	MW Difference	424.7	549.6	697.4
<b>EY2015 (1984.5 GWh)</b>	Est Avail (MWh)	2,214,688	2,619,988	3,070,288
	% of RPS Requirement	<b>111.6%</b>	<b>132.0%</b>	<b>154.7%</b>
	MW Difference	191.8	529.6	904.8
<b>EY2016 (2227.5 GWh)</b>	Est Avail (MWh)	2,172,688	2,876,388	3,669,688
	% of RPS Requirement	<b>97.5%</b>	<b>129.1%</b>	<b>164.7%</b>
	MW Difference	(45.7)	540.7	1,201.8



# NJCEP Solar Generation Forecast





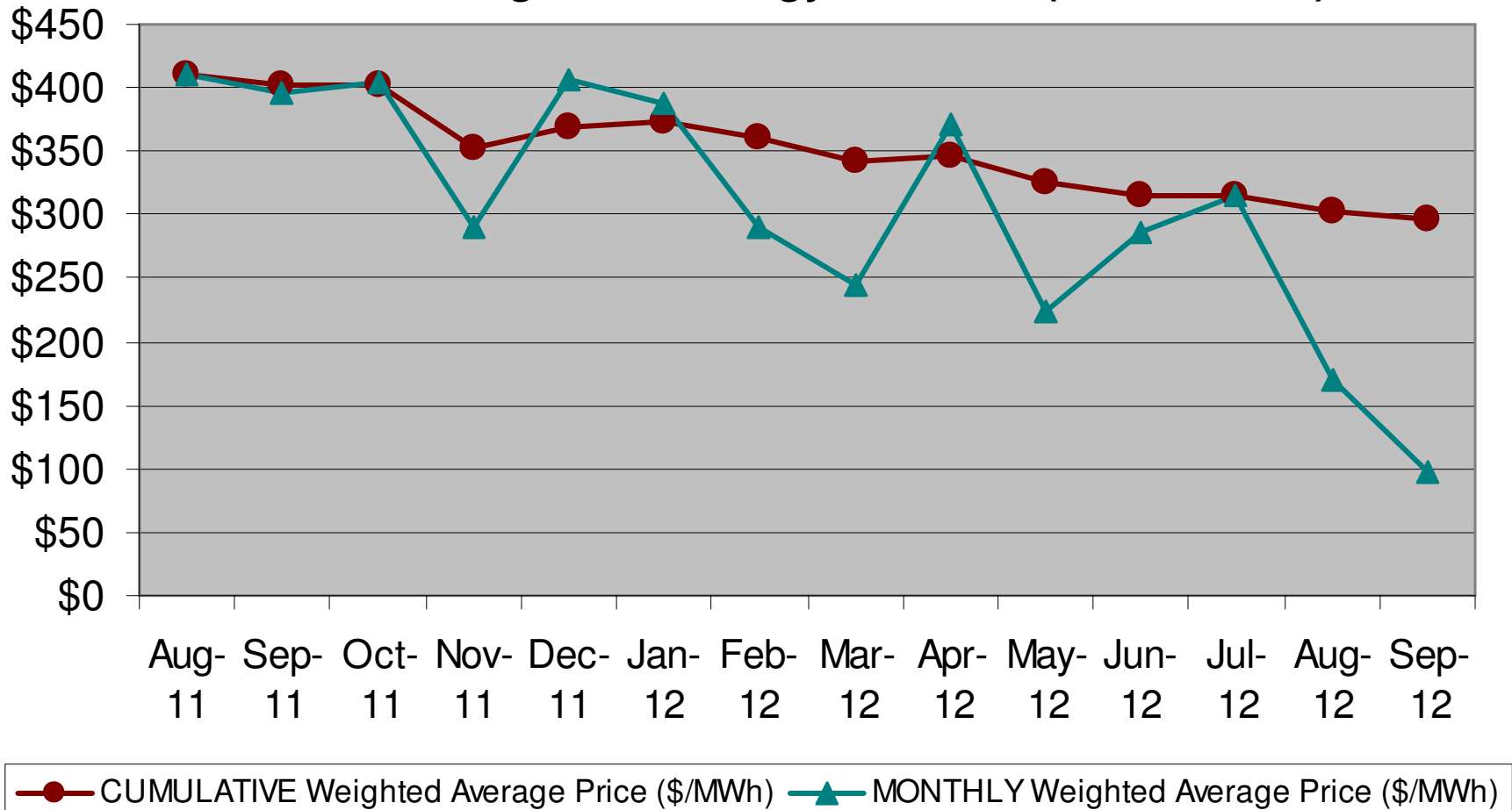
# Current SREC Trading Statistics Energy Year 2012

EY 2012 SACP= \$658			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	2012	850,185	TBD	25,439	\$ 500	\$ 50	961,658	\$297.39
Aug	2012	835,379	9,677	86,222	\$ 613	\$ 50	936,219	\$302.81
Jul	2012	813,977	18,311	292,185	\$ 640	\$ 50	849,997	\$316.18
Jun	2012	783,615	113,299	121,355	\$ 635	\$ 85	557,812	\$316.19
May	2012	740,087	102,942	78,459	\$ 635	\$ 50	436,457	\$324.60
Apr	2012	690,210	69,223	48,617	\$ 640	\$ 75	357,998	\$346.55
Mar	2012	668,235	60,685	50,701	\$ 635	\$ 100	309,381	\$342.56
Feb	2012	629,290	43,636	37,581	\$ 650	\$ 112	258,680	\$361.67
Jan	2012	521,695	42,745	50,186	\$ 669	\$ 115	221,099	\$373.75
Dec	2011	488,056	40,592	52,716	\$ 658	\$ 115	170,913	\$369.46
Nov	2011	443,353	36,897	52,024	\$ 650	\$ 100	118,197	\$353.21
Oct	2011	425,494	34,467	34,724	\$ 658	\$ 120	66,173	\$403.07
Sept	2011	413,578	45,941	18,412	\$ 675	\$ 50	31,449	\$401.90
Aug	2011	395,608	48,535	12,252	\$ 665	\$ 100	13,037	\$410.48
Jul	2011	362,739	37,738	785	Due to low trade volume, the July trades are reported with the pricing data for August.			
	<b>Total</b>		<b>704,688</b>	<b>961,658</b>				



# Current SREC Trading Statistics Energy Year 2012

## NJ SREC Trading Price - Energy Year 2012 (SACP = \$658)





# For More Information

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NJ SREC Trading Statistics for each Energy Year

<http://www.njcleanenergy.com/renewable-energy/project-activity-reports/srec-pricing/srec-pricing>