NJ Solar Market Update

March 10, 2015
Renewable Energy Committee Meeting
Trenton, NJ

Prepared by Charlie Garrison

Solar Installed Capacity Data

- The preliminary installed solar capacity as of 2/28/15 is approximately 1,456.6 MW.
  - Approximately 17.8 MW reported as installed in February.
- The preliminary solar project pipeline capacity as of 2/28/15 is approximately 349.8 MW.

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).

NJCEP Solar Installed Projects Plus Pipeline History

NJCEP Solar Installed Projects Plus Pipeline History as of 2/28/15			
As Of	**MW Installed**	**MW Pipeline**	**Combined MW**
11/30/2013	1,168.1	346.3	1,514.4
12/31/2013	1,184.5	338.0	1,522.5
1/31/2014	1,201.4	323.5	1,524.9
2/28/2014	1,245.5	284.7	1,530.2
3/31/2014	1,267.1	224.8	1,491.9
4/30/2014	1,272.9	357.2	1,630.1
5/31/2014	1,298.1	352.9	1,651.0
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

Preliminary values for 2/28/15

NJCEP Solar Installed Projects Plus Pipeline Projects Summary

Preliminary Values As of 2/28/15

Installed Solar Projects

Interconnection Type	Project Qty	Total Capacity (KW DC)	Percent of Capacity	Avg System Size (kW DC)
Behind the meter	33,802	1,140,807.7	78.3%	33.7
Direct Grid Supply	125	315,762.0	21.7%	2,526.1
Installed Totals	**33,927**	**1,456,569.7**	**100.0%**	**42.9**

Solar Project Pipeline

Interconnection Type	Project Qty	Total Capacity (KW DC)	Percent of Capacity	Avg System Size (kW DC)
Behind the meter	7,362	113,490.1	32.4%	15.4
Direct Grid Supply	33	236,324.4	67.6%	7,161.3
Pipeline Totals	**7,395**	**349,814.5**	**100.0%**	**47.3**

Totals For All Projects	**41,322**	**1,806,384.2**		**43.7**

New Jersey Solar Installations by Year
As of 2/28/15

Year	# Projects	Total kW	Total Rebate $
2001-06	2,020	32,039.7	$ 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	$ 56,026,262
2010	3,131	132,383.4	$ 45,961,190
2011	5,397	305,199.0	$ 13,383,747
2012	5,902	417,344.4	$ 2,389,758
2013	6,539	202,246.9	$ 4,691
2014	6,522	247,433.5	$ -
2015	1,541	24,721.8	$ -
Total	**33,927**	**1,456,569.7**	**$ 363,501,358**

Total* = Program to date totals for Paid projects plus projects pending payment; preliminary results subject to true-up based upon inspection results.

New Jersey Solar Installations

Summary Review of

NJCEP Solar Installed Projects

Plus Pipeline Projects

As of 1/31/15

NJCEP Direct Grid Supply Solar Project Summary

NJCEP Direct Grid Supply Solar Installed Projects As Of 1/31/15			
Description	**Project Qty**	**Total Capacity (KW dc)**	**Percent of Capacity**
EDC Projects	76	78,465.1	25.4%
Subsection q	8	48,524.2	15.7%
Subsection r	-	-	0.0%
Subsection s	3	12,687.7	4.1%
Subsection t	4	47,300.2	15.3%
Other	33	122,525.7	39.6%
Installed Totals	**124**	**309,502.9**	**100.0%**

NJCEP Direct Grid Supply Solar Project Summary

NJCEP Direct Grid Supply Solar Project Pipeline As Of 1/31/15			
Description	**Project Qty**	**Total Capacity (KW dc)**	**Percent of Capacity**
EDC Projects	-	-	0.0%
Subsection q	27	182,627.0	74.5%
Subsection r	-	-	0.0%
Subsection s	-	-	0.0%
Subsection t	3	19,304.0	7.9%
Other	4	43,101.7	17.6%
Pipeline Totals	**34**	**245,032.7**	100.0%

NJCEP Direct Grid Supply Solar Project Summary

NJCEP Subsection q Project Summary By Energy Year As Of 1/31/15						
	Subsection q Installed Projects		Subsection q Project Pipeline		Subsection q Installed Projects Plus Pipeline Projects	
Energy Year	Project Qty	Total Capacity (KW dc)	Project Qty	Total Capacity (KW dc)	Project Qty	Total Capacity (KW dc)
EY14	7	40,078.6	7	39,760.0	14	79,838.6
EY15	1	8,445.6	10	71,061.0	11	79,506.6
EY16	-	-	10	71,806.0	10	71,806.0
Totals	8	48,524.2	27	182,627.0	35	231,151.2

Summary of TPO Use For NJCEP Installed Solar Projects

All Behind the Meter Installed Projects As of 01/31/15				
TPO Code	**Description**	**Project Qty**	**Total Capacity (KW dc)**	**Percent of Capacity**
0	Did Not use TPO	4,931	211,474	25.0%
1	Used TPO	19,072	632,827	75.0%
	Totals	**24,003**	**844,301**	**100%**
Blank	Unknown	8,795	285,048	

Residential Behind the Meter Installed Projects As of 01/31/15				
TPO Code	**Description**	**Project Qty**	**Total Capacity (KW dc)**	**Percent of Capacity**
0	Did Not use TPO	3,754	34,185	19.5%
1	Used TPO	17,493	141,097	80.5%
	Totals	**21,247**	**175,283**	**100%**
Blank	Unknown	6,920	53,026	

NJCEP Solar Generation Scenarios – EY 2014-2017

NJCEP Solar Generation Scenarios
Assumptions used in forecast of capacity added for each EY

	Estimated Monthly BTM Capacity Added (kW/Month)			Estimated Monthly Grid Supply Capacity Added (kW/Month)			Estimated Total Capacity Added (kW/Month)		
EY	**Low**	**Med**	**High**	**Low**	**Med**	**High**	**Low**	**Med**	**High**
EY2015	9,300	10,700	11,700	10,000	10,400	11,100	19,300	21,100	22,800
EY2016	9,400	15,600	20,600	10,000	11,500	12,000	19,400	27,100	32,600
EY2017	9,800	16,500	23,100	9,000	11,500	12,000	18,800	28,000	35,100

	Estimated Annual BTM Capacity Added (kW/Year)			Estimated Annual Grid Supply Capacity Added (kW/Year)			Estimated Total Capacity Added (kW/Year)		
EY	**Low**	**Med**	**High**	**Low**	**Med**	**High**	**Low**	**Med**	**High**
EY2015	111,000	128,000	140,000	119,530	124,530	133,380	230,530	252,530	273,380
EY2016	112,800	187,200	247,200	120,000	138,000	144,000	232,800	325,200	391,200
EY2017	117,600	198,000	277,200	108,000	138,000	144,000	225,600	336,000	421,200

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

NJCEP Solar Generation Scenarios – EY 2014-2017

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

Low	Based upon the lowest 6 month average of the historical run rate for BTM installs from January 2012 to the present with 104% growth per year plus annual additions from the grid supply table above.	Lowest 6 month average kW capacity added for BTM installs from January 2012 to the present=	9,030
Med	Based upon 106% of the 2 year historical run rate for BTM installs with 6% growth per year plus annual additions from grid supply table above.	Avg BTM monthly kW capacity added for previous 2 Years =	14,680
High	Based upon 112% of the 4 year historical run rate for BTM installs with 12% growth per year plus annual additions from grid supply table above.	Avg BTM monthly kW capacity added for previous 4 Years =	18,410

Assumptions used in the scenario model:

The Estimated Capacity Added for Behind The Meter (BTM) and Grid Supply projects is based upon an analysis of historical run rates for prior periods with factors applied to account for the low, medium and high scenario growth rates.

Assumes that the estimated installed capacity as of the end of each month is the basis for SREC generation in the following month. Therefore, estimated SREC Generation for an EY is based upon the installed capacity at the end of each month covering May through April (12 Months).

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

The run rate multiplier and annual growth rate for the three scenarios are influenced by the potential treatment of the FITC as described below. All scenarios assume that 80% of the capacity additions for EY 2017 will occur by 12/31/16.

Low Scenario: Assumes FITC is extended thus development continues along at a similar pace.

Medium Scenario: Assumes FITC is modified to allow projects that have commenced construction by 12/31/16 to remain eligible for the FITC for a defined period of time thus development increases at a steady pace.

High Scenario: Assumes FITC ends on 12/31/16 thus development increases at a rapid pace then is reduced after 12/31/16.

NJCEP Solar Generation Scenarios – EY 2014-2017

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 2014-2017
2014	76,512,600	2.05%	1,568,508	
2015	76,600,000	2.45%	1,876,700	
2016	76,700,000	2.75%	2,109,250	
2017	76,800,000	3.00%	2,304,000	

Estimated SRECs Available By Energy Year - 3 Scenarios As of 01/31/15				
Energy Yr	RPS Req	Low	Med	High
2012	442,000	724,595	724,595	724,595
2013	596,000	1,414,548	1,414,548	1,414,548
2014	1,568,508	2,230,548	2,230,548	2,230,548
2015	1,876,700	2,333,140	2,338,440	2,343,140
2016	2,109,250	2,412,240	2,504,140	2,576,840
2017	2,304,000	2,548,390	2,856,790	3,094,890

NJCEP Solar Generation Scenarios – EY 2014-2017

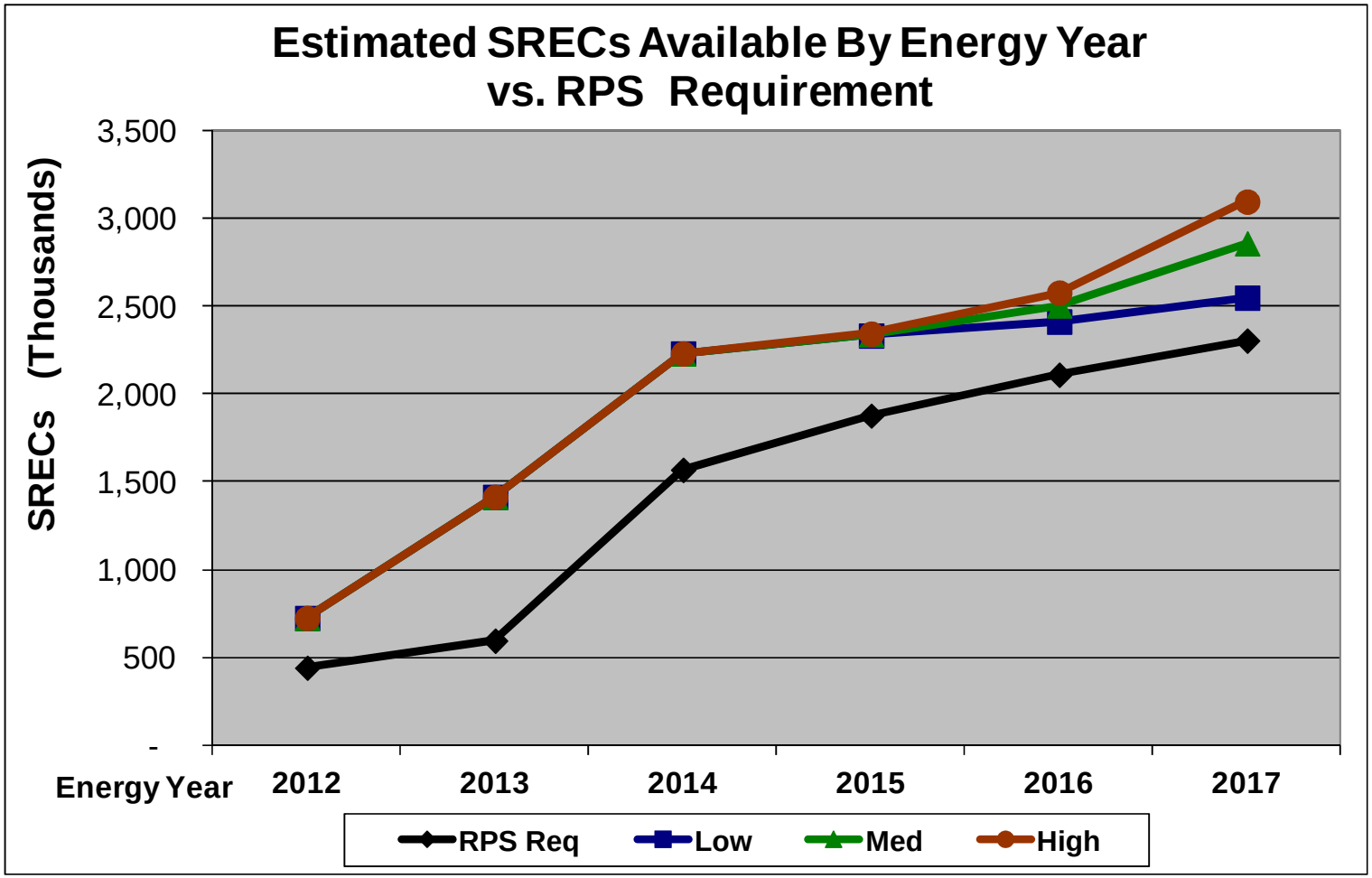
NJCEP Solar Generation Scenarios
Summary By Energy Year - As of 01/31/15

Energy Yr (RPS Req)	Item	Low	Med	High
EY2014 (1569 GWh)	Estimated SRECs Available	2,230,548	2,230,548	2,230,548
	% of RPS Requirement	**142.2%**	**142.2%**	**142.2%**
EY2015 (1877 GWh)	Estimated SRECs Available	2,333,140	2,338,440	2,343,140
	% of RPS Requirement	**124.3%**	**124.6%**	**124.9%**
EY2016 (2109 GWh)	Estimated SRECs Available	2,412,240	2,504,140	2,576,840
	% of RPS Requirement	**114.4%**	**118.7%**	**122.2%**
EY2017 (2304 GWh)	Estimated SRECs Available	2,548,390	2,856,790	3,094,890
	% of RPS Requirement	**110.6%**	**124.0%**	**134.3%**

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 2014-2017



NJCEP Solar Generation Scenarios – EY 2014-2017

NJCEP Solar Generation Scenarios
Summary By Energy Year - As of 01/31/15

Energy Yr	Item	Low	Med	High
EY 2014	Est SREC Generation in EY	1,412,000	1,412,000	1,412,000
	Estimated SRECs Available	2,230,548	2,230,548	2,230,548
	RPS Req	1,568,508	1,568,508	1,568,508
	% of RPS Requirement	**142.2%**	**142.2%**	**142.2%**
	SREC Carryover	662,040	662,040	662,040
EY2015	Est Capacity Added (MW/EY)	230.5	252.5	273.4
	Est SREC Generation in EY	1,671,100	1,676,400	1,681,100
	Estimated SRECs Available	2,333,140	2,338,440	2,343,140
	RPS Req	1,876,700	1,876,700	1,876,700
	% of RPS Requirement	**124.3%**	**124.6%**	**124.9%**
	SREC Carryover	456,440	461,740	466,440

NJCEP Solar Generation Scenarios – EY 2014-2017

NJCEP Solar Generation Scenarios
Summary By Energy Year - As of 01/31/15

Energy Yr	Item	Low	Med	High
EY2016	Est Capacity Added (MW/EY)	232.8	325.2	391.2
	Est SREC Generation in EY	1,955,800	2,042,400	2,110,400
	Estimated SRECs Available	2,412,240	2,504,140	2,576,840
	RPS Req	2,109,250	2,109,250	2,109,250
	% of RPS Requirement	**114.4%**	**118.7%**	**122.2%**
	SREC Carryover	302,990	394,890	467,590
EY2017	Est Capacity Added (MW/EY)	225.6	336.0	421.2
	Est SREC Generation in EY	2,245,400	2,461,900	2,627,300
	Estimated SRECs Available	2,548,390	2,856,790	3,094,890
	RPS Req	2,304,000	2,304,000	2,304,000
	% of RPS Requirement	**110.6%**	**124.0%**	**134.3%**
	SREC Carryover	244,390	552,790	790,890

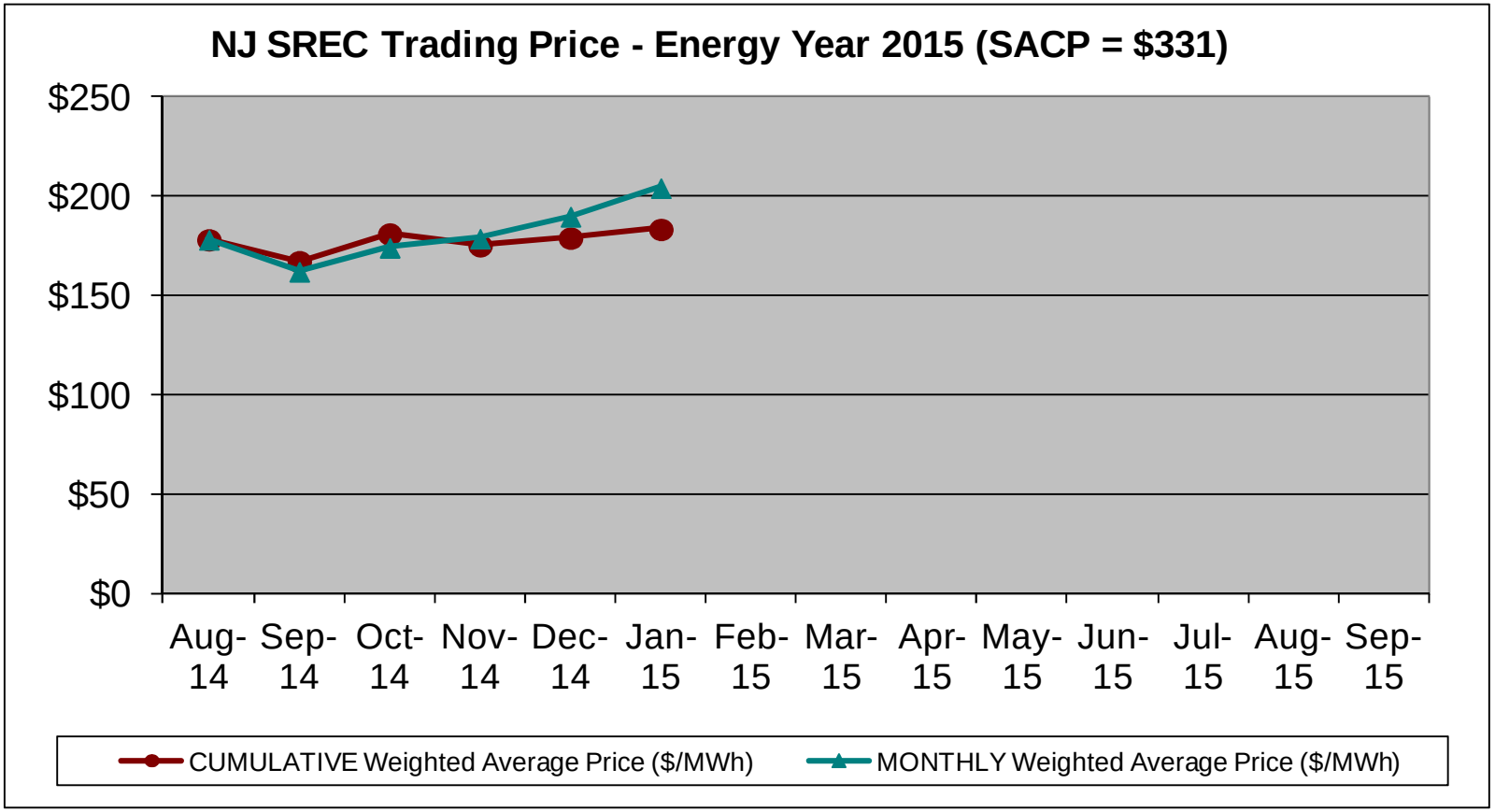
The Estimated SRECs Available for each Energy Year in the table above consists of the estimated unretired SRECs generated in previous Energy Years that have remaining eligibility (carry over) plus SRECS that are estimated to be issued based upon electricity generated during each Energy Year listed in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

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							
Aug	2015							
July	2015							
June	2015							
May	2015							
Apr	2015							
Mar	2015							
Feb	2015							
Jan	2015	1,370,192	62,856	169,175	$ 590	$ 46	968,804	$183.49
Dec	2014	1,353,842	98,501	208,575	$ 486	$ 70	799,629	$179.11
Nov	2014	1,346,691	103,381	139,726	$ 518	$ 41	591,054	$175.31
Oct	2014	1,337,929	152,339	226,727	$ 518	$ 70	451,328	$181.15
Sept	2014	1,320,874	164,188	153,637	$ 518	$ 70	224,601	$167.25
Aug	2014	1,315,309	163,745	66,311	$ 518	$ 70	70,964	$178.25
July	2014	1,310,426	150,158	4,653	Due to low trade volume, the July trades are reported with the pricing data for August.			
	Total		**895,168**	**968,804**				

SREC Trading Statistics Energy Year 2015



For More Information

Subscribe to the Renewable Energy Committee Notification list

http://www.njcleanenergy.com/RElist

New Jersey Clean Energy Program Renewable Energy Reports

Installation Summary by Technology

http://*www.njcleanenergy.com/projectreports*

Program Status Reports

http://www.njcleanenergy.com/statusreports

NJ SREC Trading Statistics for each Energy Year

http://www.njcleanenergy.com/srecpricing