A Generic Proceeding to review the State of the New Jersey Solar Market

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NJ SOLAR MARKET REVIEW

By Board Directive, September 22, 2017

- Convene Stakeholders in a Generic proceeding to review the state of the solar market
- Develop a list of topic areas and questions upon which the stakeholders should provide written or oral comment
- Conduct Public Hearings in different regions of the State

NJ SOLAR MARKET REVIEW

Topics / Areas of Inquiry

- Policy Goals and Objectives
- Solar economics and incentives
- RPS design elements and eligibility criteria
- Net metering and interconnection
- Land use implications
- Other

NJ RE REGULATORY CONTEXT

- Electric Discount and Energy Competition Act of 1999 (EDECA)
  - Definition of Class I & II Renewable Energy
  - Societal Benefits Charge / CRA process
  - Renewable Portfolio Standards
  - Net Metering and Interconnection
- Governor's Renewable Energy Task Force (04/24/03)
- RPS Rulemaking (2003, 2004, 2005, 2006, 2008, 2011, 2013, pending)
- The "Solar Transition" (Docket No.EO06100744, Orders 2006 thru 2013)
- Global Warming Response Act (L. 2007, c. 340, 1/13/08)
- New Jersey's Energy Master Plan (2008, 2011, pending)
- Solar Advancement Act of 2009 (amended L.1999 c.23)
- Offshore Wind Economic Development Act (L. 2010, c. 57, 08/19/10)
- The Solar Act of 2012 (L. 2012, c. 24, 07/23/12)
- The "RRF vs. Large Hydro Act" (L. 2015, c. 51, 05/07/15)

NJ RPS STATUTORY BASIS

- Electric Discount and Energy Competition Act of 1999
  - Renewable Portfolio Standards (P.L.2012, CHAPTER 24, Pp.13,14)

d. Notwithstanding any provisions of the "Administrative Procedure Act,…to the contrary, the board shall initiate a proceeding and shall adopt, after notice, provision of the opportunity for comment, and public hearing, **renewable energy portfolio standards** that shall require:

(1) that two and one-half percent **of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider be from Class I or Class II renewable energy sources**;

(2) beginning on January 1, 2001, that one-half of one percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider be from Class I renewable energy sources. The board shall increase the required percentage for Class I renewable energy sources so that by January 1, 2006, one percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider shall be from Class I renewable energy sources and shall additionally increase the required percentage for Class I renewable energy sources by one-half of one percent each year until January 1, 2012, when four percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider shall be from Class I renewable energy sources.

An electric power supplier or basic generation service provider may satisfy the requirements of this subsection ***by participating in a renewable energy trading program*** **approved by the board in consultation with the Department of Environmental Protection.**

NJ RPS STATUTORY BASIS

- Electric Discount and Energy Competition Act of 1999
  - Renewable Portfolio Standards (P.L.2012, CHAPTER 24, PG14)

(3) that the board establish a multi-year schedule, applicable to each electric power supplier or basic generation service provider in this State, beginning with the one-year period commencing on June 1, 2010, and continuing for each subsequent one-year period up to and including, the one-year period commencing on June 1, 2028, that **requires the following number or percentage, as the case may be, of kilowatt-hours sold in this State by each electric power supplier and each basic generation service provider** to be from **solar** electric power generators ***connected to the distribution system in this State***:

EY 2011 306 Gigawatthours (Gwhrs)
EY 2012 442 Gwhrs
EY 2013 596 Gwhrs
EY 2014 2.050%
EY 2015 2.450%
EY 2016 2.750%
EY 2017 3.000%...

NJ RPS STATUTE

- Electric Discount and Energy Competition Act of 1999
  - Renewable Portfolio Standards (P.L.2012, CHAPTER 24, PG4)

"**Connected to the distribution system**" **means, for a solar electric power generation facility, that the facility is: (1)** connected to a net metering customer's side of a meter, regardless of the voltage at which that customer connects to the electric grid, **(2)** an on-site generation facility, **(3)** qualified for net metering aggregation as provided pursuant to paragraph (4) of subsection e. of section 38 of P.L.1999, c.23 (C.48:3-87), **(4)** owned or operated by an electric public utility and approved by the board pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1), **(5)** directly connected to the electric grid at 69kilovolts or less, regardless of how an electric public utility classifies that portion of its electric grid, ***and is designated as*** "connected to the distribution system" ***by the board*** pursuant to **subsections q. through s.** of section 38 of P.L.1999, c.23 (C.48:3-87), **or (6)** is certified by the board, in consultation with the Department of Environmental Protection, as being located on a brownfield, on an area of historic fill, or on a properly closed sanitary landfill facility. Any solar electric power generation facility, other than that of a net metering customer on the customer's side of the meter, connected above 69 kilovolts shall not be considered connected to the distribution system;

BASIC RPS CONCEPTS (RULES & STATUTE)

- NJ RPS at N.J.A.C. 14:8-2
- 1 RPS = 4 RE Markets Served = SREC + Class I + Class II + OREC
- Solar = PV connected to distribution serving NJ, 15 yrs. then Class I
- NJ Class I = solar, wind, sustainable bio, new hydro less than 3 MW
- NJ Class II = RRF & any hydro greater than 3 and less than 30 MW
- Compliance period Energy Year XX; June 1 to May 31, XX
- EY21 = 23.85% = 3.470% + 17.88% + 2.5%
- Compliance requirement placed on retail electric suppliers
- LSEs = TPS + BGS (not EDCs) comply in proportion to retail sales
- Compliance achieved through REC retirement and/or ACP payment
- RECs = Renewable Energy Certificates
- 1 REC derived from 1 MWh of eligible electricity, REC =/= electricity
- RECs can trade without limit; by brokers, aggregators, LSEs, s.t.:

BASIC RPS CONCEPTS (RULES & STATUTE)

- Vintage or bankability varies; SREC = 5 yrs., Class I & OREC = 3 yrs.
- ACP = Alternative Compliance Payment (NJ Class I or NJ Class II)
- ACP traditionally $50 per MWh
- SACP = Solar Alternative Compliance Payment, see Solar Act..
- 15 yr. Schedule: EY14 @ $339 to EY28 @ $239 per MWh
- SREC supply from eligible energy; net metered, grid supply certified by the Board as "connected to NJ distribution"
- SREC Registration Program established to facilitate the market
- SREC demand was a percent of retail sales, then absolute GWh requirement allocated by market share now back to %....
- REC supply from eligible energy generated within or delivered into PJM via dynamic scheduling of output to load N.J.A.C. 14:8-2.7
- No REC double counting; i.e., previously used N.J.A.C. 14:8-2.9 (h)

NJ'S EVOLVING **SOLAR** REQUIREMENTS

1. Original Interim Standards in EDECA, Adopted by NJBPU Passed Feb. 1999, Effective 2001 Contained No Solar Carve Out

2. RPS Rule revised 2004
   - RY05 - 0.01%
   - RY06 - 0.0170%
   - RY07 - 0.0393%
   - RY08 - 0.0817%
   - RY09 - 0.1600%

3. Rule Revised 2006
   - RY10 - 0.2210%
   - RY11 - 0.3050%
   - RY12 - 0.3940%
   - RY13 - 0.4970%
   - RY14 - 0.6210%
   - RY15 - 0.7650%

4. Solar Advancement Act of 2010

"Energy Year"

- EY 2011 - 306 gwh
- EY 2012 - 442 gwh
- EY 2013 - 596 gwh
- EY 2014 - 772 gwh
- EY 2015 - 965 gwh
- EY 2016 - 1,150 gwh
- EY 2017 - 1,357 gwh
- EY 2018 - 1,591 gwh
- EY 2019 - 1,858 gwh
- EY 2020 - 2,164 gwh
- EY 2021 - 2,518 gwh
- EY 2022 - 2,928 gwh
- EY 2023 - 3,433 gwh
- EY 2024 - 3,989 gwh
- EY 2025 - 4,610 gwh
- EY 2026 - 5,316 gwh
- EY 2027+> 5,316 gwh

…5. from Solar Act signed 07.23.12

- EY 2011 - 306 (Gwhrs)
- EY 2012 - 442 Gwhrs
- EY 2013 - 596 Gwhrs
- EY 2014 - 2.050%
- EY 2015 - 2.450%
- EY 2016 - 2.750%
- EY 2017 - 3.000%
- EY 2018 - 3.200%
- EY 2019 - 3.290%
- EY 2020 - 3.380%
- EY 2021 - 3.470%
- EY 2022 - 3.560%
- EY 2023 - 3.650%
- EY 2024 - 3.740%
- EY 2025 - 3.830%
- EY 2026 - 3.920%
- EY 2027 - 4.010%
- EY 2028 - 4.100%,

THE COST OF RPS COMPLIANCE

Compliance Period Notes:	EY 2013 Gwh	EY 2014 %/Gwh	EY 2015 %/Gwh	EY 2016 %	Preliminary EY17 *estimated*	Totals (since 2005)
Total Retail Sales of Regulated LSEs (MWh)	76,273,927	76,512,600	75,390,475	74,199,076	*75,178,647*	
Class I RPS Percentage Requirement	7.143%	7.977%	8.807%	9.649%	10.485%	
Class I REC Obligation (MWh)	5,448,247	6,103,410	6,639,635	7,159,469	*7,882,481*	54,733,880
Class I RECs Retired for RPS (MWh)	5,448,631	6,103,398	6,641,229	7,130,059		
Estimated Year End Weighted Average Price	$6.91	$6.83	$12.57	$15.18	*$10.00*	
Estimated Dollar Value of Class I RECs Retired	$37,650,040	$41,686,208	$83,480,249	$108,234,296	*$78,824,811*	$485,129,173
Class I ACPs Submitted (MWh)	7	4	192	11		
ACP Level ($ per MWh)	$50	$50	$50	$50		
Cost of Class I ACPs ($)	$350	$200	$9,600	$550		
Class II RPS Percentage Requirement	2.50%	2.50%	2.50%	2.50%	2.50%	
Class II REC Obligation (MWh)	1,906,848	1,912,815	1,884,757	1,854,973	1,879,466	25,401,130
Class II RECs Retired for RPS (MWh)	1,909,218	1,912,860	1,885,345	1,847,405		
Estimated Year End Weighted Average Price	$2.72	$2.87	$4.47	$5.27	*$5.27*	
Estimated Dollar Value of Class II RECs Retired	$5,193,073	$5,489,908	$8,427,492	$9,735,824	*$9,904,787*	$56,003,001
Class II ACPs Submitted (MWh)	12	7	68	0		
ACP Level ($ per MWh)	$50	$50	$50	$50		
Cost of Class II ACPs ($)	$600	$350	$3,400	$0		
Retail Sales Obligated by RPS for solar (+)	76,273,927	76,512,600	75,390,475	74,199,076	*76,300,000*	
Solar RPS Percentage Requirement	n/a	2.050%	2.45%	2.75%	3%	
SREC Obligation (MWh)	596,000	1,568,508	1,847,059	2,040,471	*2,517,900*	9,733,590
SRECs Retired for RPS (MWh)	596,143	1,568,503	1,847,389	2,032,097		
Percentage of Obligation met via SRECs	100.02%	100.00%	100.02%	99.59%		
Year End Cumulative Weighted Average Price	$179.04	$175.80	$192.64	$225.85	*$225.85*	
Estimated Dollar Value of SRECs Retired	$106,733,443	$275,742,827	$355,881,017	$458,949,107	*$568,667,715*	$2,205,963,475
SACPs Submitted (MWh)	1	1	76	2		
SACP Level ($ per MWH)	$641	$339	$331	$323		
Percentage of Obligation met via SACPs	0.00%	0.00%	0.00%	0.00%		
SACPs Submitted($)	$641	$339	$25,156	$646		
Compliance on a Percentage Basis	100.02%	100.00%	100.02%	99.59%		
Estimated Solar RPS Expenditures (SACP + SREC)	$106,734,084	$275,743,166	$355,906,173	$458,949,753	*$568,667,715*	$2,294,039,488
Estimated Class I RPS Expenditures (ACP + CI-REC)	$37,650,390	$41,686,408	$83,489,849	$108,234,846	*$78,824,811*	$485,179,573
Estimated Class II RPS Expenditures (ACP + CII-REC)	$5,193,673	$5,490,258	$8,430,892	$9,735,824	*$9,904,787*	$56,010,401
Est. RPS Expenditures (REC + SREC + ACP + SACP)	$149,578,147	$322,919,833	$447,826,914	$576,920,423	*$657,397,313*	$2,835,229,462

RESOURCES & NEXT STEPS

- njcleanenergy.com/renewable-energy
- Next stakeholder webinar 11/09/17
- Stakeholder Input on Questions by 11/17/17 to publiccomments@njcleanenergy.com
- Public Hearings tentatively 12/4, 5 & 8

Thank you!