NORTHEAST SOLAR MARKET OVERVIEW

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Agenda

- Intro to Community Energy
- Northeast Solar Markets Overview
  - New Jersey
  - Pennsylvania
  - Massachusetts

Community Energy

Building a Clean Energy Future

- Clean energy market pioneer
- Experienced wind and solar developer
- Clean energy supplier to
  - 120,000+ residences and businesses
  - 20 utility green power programs
  - Some of the largest green power purchasers in the nation

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ReMa

Renewable Energy Markets Association

- **Dedicated to maintaining and growing strong markets for renewable energy in the United States.**

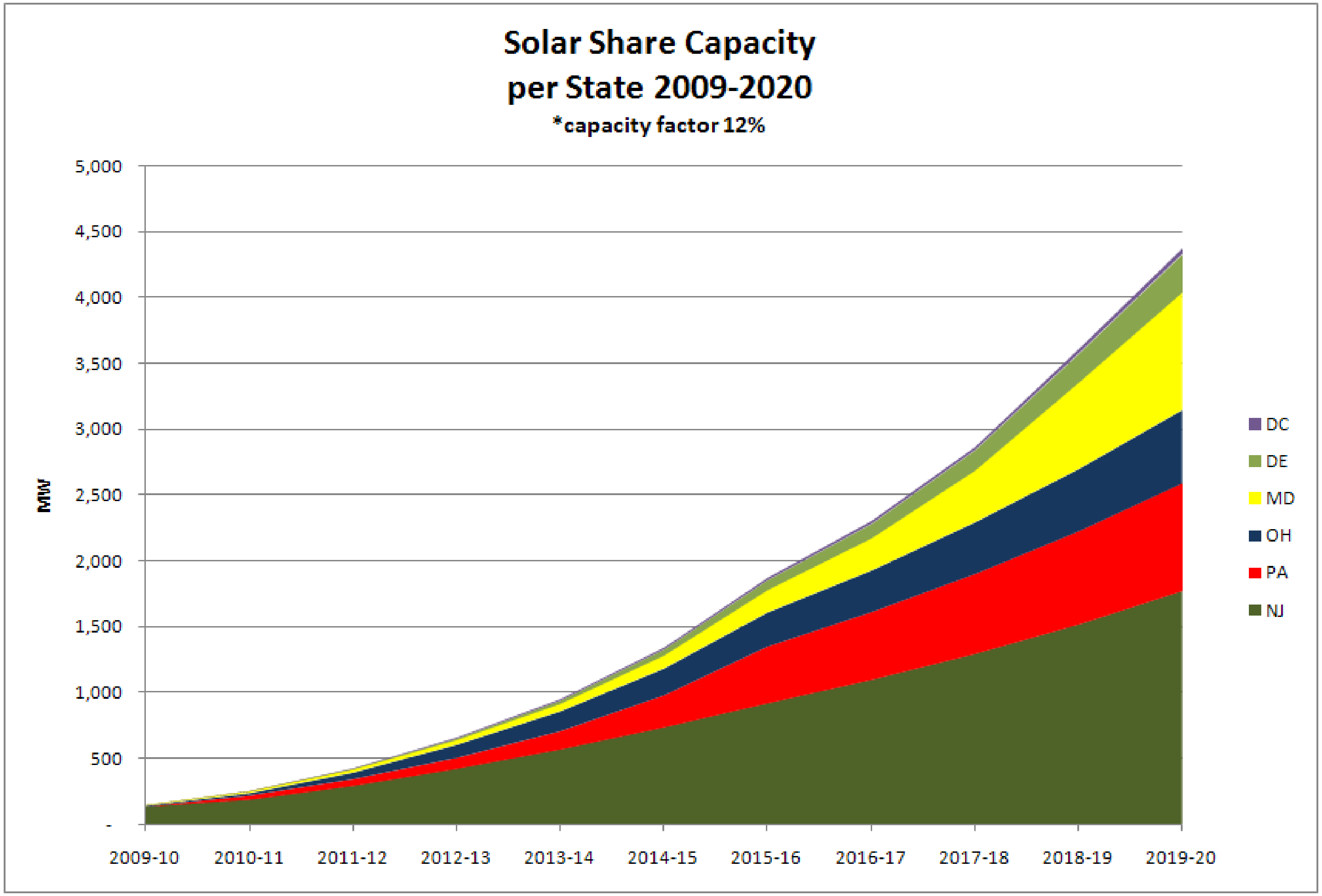
- Advocacy and education at federal, state, and regional levels

www.renewablemarketers.org

Smith College Solar

Eastern University Solar

Mid-Atlantic (PJM) Solar Demand



NJ, PA and MA Solar Demand

- Current installed capacity and demand

State	Supply Installed MW	Demand 2010	Demand 2011	Demand 2012
NJ	185	190	295	395
PA	27	24	39	61
MA	9	30	69	?

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New Jersey

- From rebates to S-RECs
- 190MW in 2010 to 1,500+ MW by 2020
  - In state requirement
- Fixed, declining Alternative Compliance Payment (ACP)
  - Currently almost $700/MWh

New Jersey

- In short market, spot market prices near ACP

New Jersey Utility Programs

- PSEG Solar Loan
  - PSEG loans 50-60% of capital cost
  - Repayment in S-RECs at floor price through 15 year repayment term
  - 75% of market value after repayment
  - Residential and Non-Residential segments up to 2MW

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New Jersey Utility Programs

Program Total Capacity Commitments

PSE&G Solar Program Segments		Capacity DC kW	Capacity Subscribed DC kW	Capacity Available	% Subscribed
Residential		10,347	2,632	7,715	25.4%
Non-Residential	**Non Residential Small** (<= 150 kW)	16,515	2,088	14,427	12.6%
	Non Residential Large (>150, <=500 kW)	11,111	5,705	5,406	51.3%
	Non Residential Very Large (>500, <=2,000 kW)	14,315	2,999	11,315	21.0%
TOTAL		52,288	13,425	38,863	25.7%

New Jersey Utility Programs

- S-REC Based Financing Program
  - ACE, JCP&L, RECO
  - RFP for 10-15 year S-RECs contracts
  - Winners based on Net Present Value (NPV) of contracts
  - Small and Large project segments up to 500kW
  - Goal 64 MW of solar over 3 years

New Jersey Utility Programs

- S-REC Based Financing Program

	Round 1	Round 2	Round 3	Round 4
Bids received	8 bids (1,594.73 kW)	44 bids (7,009.628 kW)	63 bids (9,940.548 kW)	23 bids (5,025.025 kW)
Awards	7 awards (1,585.37 kW)	39 awards (6,521.798 kW)	57 awards (9,332.978 kW)	20 awards (3,931.945 kW)
Rejected bids	1 bid (9.36 kW)	5 bids (487.830 kW)	6 bids (607.570 kW)	3 bids (1,093.080 kW)
Pricing (based on 10-year contract)	Average $409.71/SREC Low $369.00/SREC	Average $405.15/SREC Low $272.44/SREC	Average $424.18/SREC Low $349.74/SREC	Average $466.21/SREC Low $413.69/SREC

New Jersey

Offtake	Term	Price	Size
PSEG Solar Loan	15 years	Floor between $350-$410	Up to 2MW
S-REC RFPs JCP&L, ACE, RECO	10-15 years	Average between $410-$475	Up to 500kW
Bi-lateral with utilities and suppliers	3-5 years	$300-$400	No cap, most likely larger projects 2MW+
Spot Market	N/A	$610-$650	Full range

Pennsylvania

- 24 MW in 2010 to 800+ MW in 2020
  - Tripling of solar carve-out requirement in late years to 1.5% has been proposed
  - All PJM S-RECs eligible
- ACP = 2x market value S-RECs
  - Fixing ACP has been proposed as well as reduction in ACP value

Pennsylvania

- S-REC-Based Incentive Structure

Offtake	Term	Price	Notes
Utility RFP	7-10 years	$256 (PECO only data point so far)	Highly competitive, but most 3rd party financeable option
S-REC Aggregators	3-5 years or upfront payment for 10-year rights	$230-$280 at term $850-1,200 for upfront	Mostly smaller projects, may look to Ohio market
Spot Market	N/A	$250-300	Not financeable, may look to Ohio market

- Bottom Line: Market still developing.

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Massachusetts

- From Rebates to S-RECs
- 30MW in 2010 to 400MW total
- 6MW cap per project
- ACP: $600 for 2010
  - Can be reduced up to 10% each year

Massachusetts S-REC Auction

- Solar Credit Clearinghouse Fixed-Price auction at year-end is a backstop
  - set floor price of $300
  - unsold SRECs given additional year of eligibility and carried forward into next energy year
  - DOER will increase requirement to address this surplus

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Conclusion

- Each market is different
- Increasing trend toward S-REC markets away from rebates in Northeast
- NJ is the Wild West
- Other states just getting started

Questions?

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