New Jersey Solar Roundtable

Transition to a Market-based REC Financing System

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Presented at

Thomas Edison Institute

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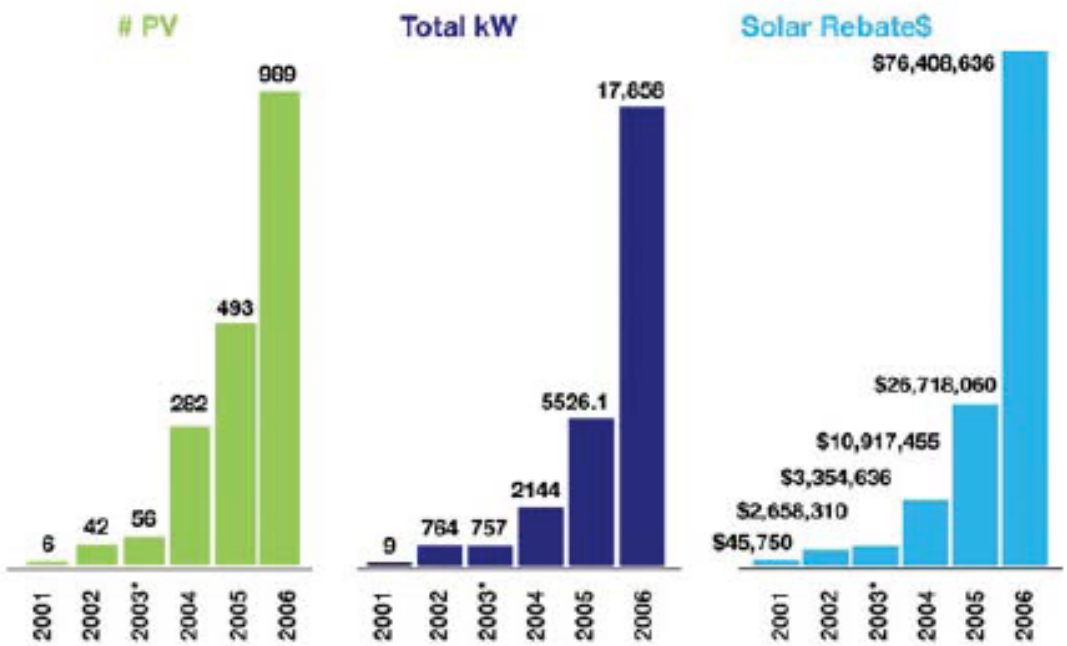
New Jersey

NJ Solar Financing Model

- NJ Rebates / SBC Fund
- Fed Tax Credits
- Electric Cost Savings / Net Metering
- Renewable Energy Certificates / RPS & Voluntary Markets
- Out of Pocket / Private Investment

New Jersey

New Jersey Solar Installations & Capacity

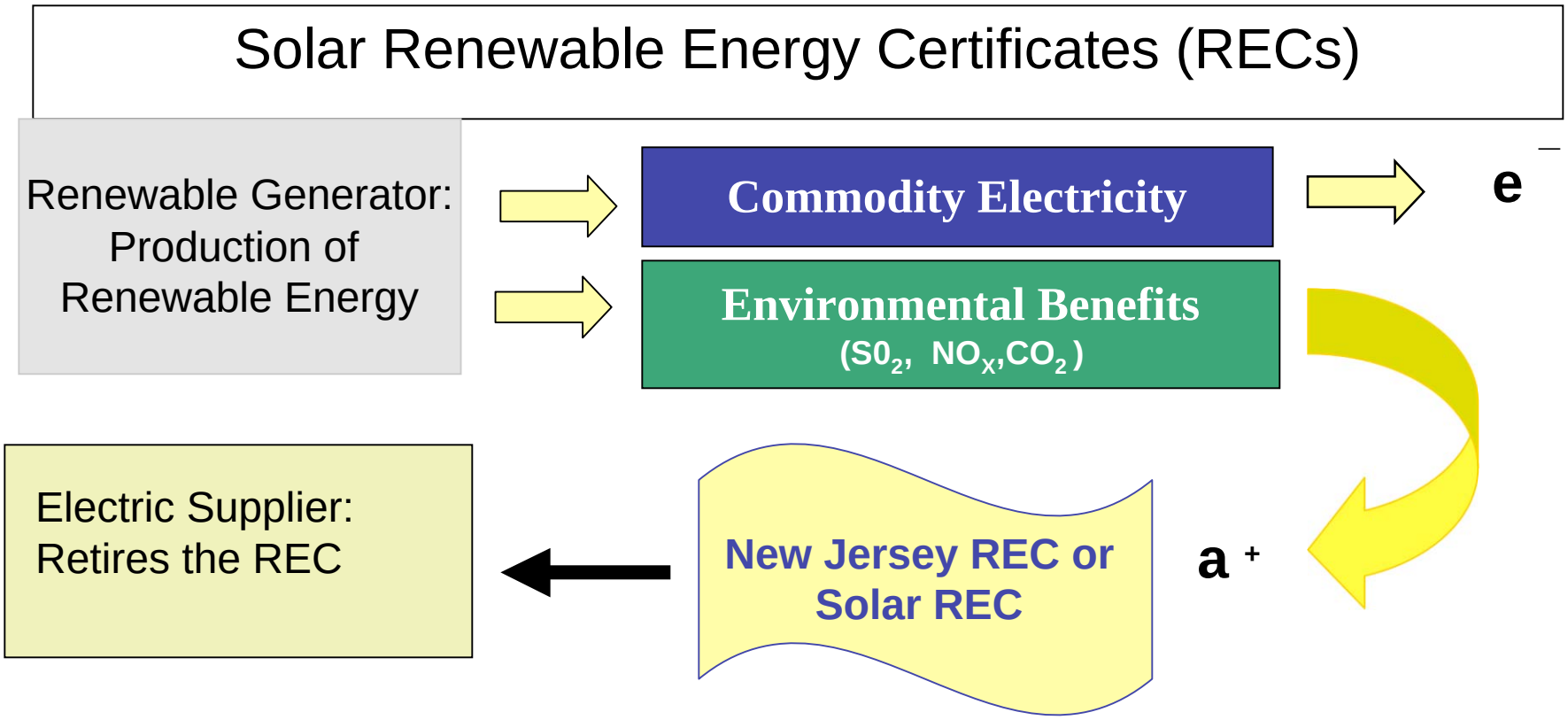


*Total NJCEP + Utilities. CORE program managed by utilities 2001 through mid-2003.
2006: includes Check Requests Pending Payment; preliminary results as of 2/8/07.

4Q 2006 NJ Solar Market Stats as reported online at NJCleanEnergy.com

New Jersey

Solar Renewable Energy Certificates (RECs)



Certificates represent the environmental benefits and other attributes associated with electricity generated from a renewable energy generator.
May be traded independently of underlying electricity.

New Jersey SRECs

Current SREC Trading Statistics, Through December 2006

Reporting Year 2007 (for production between June 1, 2006 – May 31, 2007)

Month	Year	# SRECs Traded in Month	Monthly High ($/MWh)	Monthly Low ($/MWh)	Cumulative # SRECs Traded	Cumulative Weighted Average Price ($/MWh)
Dec	2006	2750	$260	$110	5351	$195.44
Nov	2006	1022	$260	$110	2601	$197.89
Oct	2006	464	$250	$160	1579	$205.99
Sept	2006	747	$255	$174	1115	$206.08
Aug	2006	131	$235	$150	368	$213.77
July	2006	237	$240	$150	237	$218.60

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New Jersey Solar Financing Model

Residential 10 kw Solar Electric System

Installed Cost: $77,500

NJCEP Rebate: $38,000

Federal Tax Credit: $2,000

Out of Pocket Expense :$37,500

Electric cost savings / Net Metering: $1,650/ yr

SRECs Income: $2,160 / yr

Total Annual Savings : $3,810

Payback Period: 9.6 yrs

assuming a 12,000 kWh annual energy usage

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New Jersey

New Jersey Solar Financing Model

Residential 10 kw Solar Electric System

Installed Cost: $77,500

NJCEP Rebate: $38,000

Federal Tax Credit: $2,000

Out of Pocket Expense :$37,500

Electric cost savings / Net Metering: $1,650/ yr

SRECs Income: $0.00 / yr

Total savings : $1,650 / yr

Payback Period: 25 yrs

assuming a 12,000 kWh annual energy usage

New Jersey

New Jersey Solar Financing Model

Residential 10 kw Solar Electric System

Installed Cost: $77,500

NJCEP Rebate: $0.00

Federal Tax Credit: $2,000

Out of Pocket Expense :$75,500

Electric cost savings / Net Metering: $1,650/ yr

SRECs Income: $0.00 / yr

Total savings : $1,650/yr

Payback Period: 50.3 yrs

assuming a 12,000 kWh annual energy usage

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New Jersey's Clean Energy PROGRAM Your Power to Save

New Jersey

New Jersey Solar Financing Model

Residential 10 kw Solar Electric System

Installed Cost: $77,500

NJCEP Rebate: $0.00

Federal Tax Credit: $2,000

Out of Pocket Expense :$75,500

Electric cost savings / Net Metering: $1,650/ yr

SRECs Income: $6,050 / yr

$502/ SREC

Total savings : $7,700

Payback Period: 10 yrs

assuming a 12,000 kWh annual energy usage

New Jersey

- New Jersey's 20 % by 2020 Renewable Energy Portfolio Standards (RPS) will require at minimum approximately 4,400 MW of renewable energy capacity and 1500 MW of Solar capacity.
- NJ cannot simply "buy" our way to the RPS goals by providing rebates or grants to construct this capacity.
- We must consider other models ….

New Jersey

SREC Financing Model Cost

RESIDENT				COMMERCIAL				INDUSTRIAL				Total SREC Cost	
Total Cost REC and SREC $/year	Total Cost ACP and SACP $/year	Total Cost SREC $/year	Total Cost SACP $/year	Total Cost REC and SREC $/year	Total Cost ACP and SACP $/year	Total Cost SREC $/year	Total Cost SACP $/year	Total Cost REC and SREC $/year	Total Cost ACP and SACP $/year	Total Cost SREC $/year	Total Cost SACP $/year	For all Customers $/yr	With Interest and 10 year Payback period $/yr
$4,349,664	$9,230,057.28	$346,127.15		$4,289,615	$13,617,826	$510,668		$1,558,036	$4,946,146	$185,480		$1,042,276	
$5,629,181	$12,518,265	$784,555		$6,177,386	$18,469,177	$1,157,515		$2,243,696	$6,708,211	$420,422		$2,362,493	$2,883,631
$9,901,544	$25,151,906	$1,661,410		$12,480,738	$37,108,576	$2,451,209		$4,533,143	$13,478,249	$890,306		$5,002,925	$6,184,172
$15,070,376	$39,873,847	$3,507,422		$20,106,720	$58,829,009	$5,174,774		$7,302,985	$21,367,352	$1,879,536		$10,561,731	$13,063,194
$22,117,525	$55,380,344	$7,384,046		$30,503,931	$81,706,957	$10,894,261		$11,079,368	$29,676,878	$3,956,917		$22,235,224	$27,516,089
$27,846,490	$69,335,878	$10,188,237		$38,956,322	$102,296,650	$15,031,503		$14,149,370	$37,155,283	$5,459,610		$30,679,350	$41,796,961
$34,512,915	$84,456,466	$14,061,415		$48,791,820	$124,605,238	$20,745,907		$17,721,733	$45,258,011	$7,535,145		$42,342,467	$42,342,467
$41,515,870	$100,215,109	$18,198,438		$59,123,828	$147,855,197	$26,849,580		$21,474,433	$53,702,656	$9,752,067		$54,800,084	$70,139,759
$49,123,472	$116,848,993	$22,957,413		$70,347,918	$172,396,469	$33,870,869		$25,551,148	$62,616,319	$12,302,277		$69,130,559	$90,301,792
$57,721,876	$135,038,885	$28,669,117		$83,033,818	$199,233,440	$42,297,794		$30,158,808	$72,363,806	$15,363,030		$86,329,941	$113,729,983
$67,230,583	$154,568,847	$35,304,969		$97,062,759	$228,047,522	$52,088,185		$35,254,276	$82,829,402	$18,919,009		$106,312,164	$140,877,443
$77,677,523	$175,582,306	$42,837,518		$112,475,947	$259,050,324	$63,201,545		$40,852,518	$94,089,965	$22,955,506		$128,994,569	$171,638,401
$89,313,360	$198,341,036	$51,579,732		$129,643,207	$292,628,060	$76,099,617		$47,087,858	$106,285,773	$27,640,229		$155,319,578	$207,294,414
$105,598,744	$234,445,135	$61,496,377		$153,670,310	$345,895,265	$90,730,420		$55,814,770	$125,633,016	$32,954,300		$185,181,096	$247,176,918
$123,059,295	$272,375,440	$72,553,575		$179,431,228	$401,856,814	$107,043,970		$65,171,422	$145,958,874	$38,879,563		$218,477,109	$290,856,032
$141,641,657	$312,013,845	$84,718,740		$206,847,242	$460,338,456	$124,992,191		$75,129,224	$167,200,059	$45,398,557		$255,109,487	$336,582,424
$161,174,371	$353,057,845	$97,845,130		$235,665,385	$520,893,882	$144,358,582		$85,596,295	$189,194,464	$52,432,646		$294,636,358	$388,535,238
$1,033,484,447	$2,348,434,205	$554,094,221		$1,488,608,174	$3,464,828,861	$817,498,590		$540,679,082	$1,258,464,464	$296,924,600		$1,668,517,411	$2,190,918,919
$322.47	$732.77	$172.89		$3,556.44	$8,277.84	$1,953.09		$41,053.84	$95,555.39	$22,545.53		$24,672	$602
$18.97	$43.10	$10.17		$209.20	$486.93	$114.89		$2,414.93	$5,620.91	$1,326.21		$1,451	$35
											Total SREC Cost per year	$98,148,083	$128,877,583

New Jersey

A Market-based REC financing system must be:

- Verifiable
- Traded freely on an open market,
- Provide some degree of price certainty
- Allow for dating the REC to establish a vintage for REC retirement.

Criteria for evaluating alternative models

The ideal REC based initiative should be able to:

- Achieve the rapid growth needed to meet the RPS goals.
- Achieve the lowest possible cost.
- Ensure an efficient, transparent, and auditable process
- Minimizes regulatory risk /administrative burden
- Maximizes investor confidence in the market place
- Ensure compatibility with regional markets
- Allow all interested parties to participate
- Support New Jersey's State Development and Redevelopment Plan

New Jersey

A number of models or approaches to solar financing are being considered based on other market experiences:

- Underwriter Model
- Commodity Market Model
- Standard Contract Model
- “Feed in tariff” Model / Hybrid Tariff Model

Underwriter Model

- Mechanism for projects to receive a 15-year commitment from an underwriting entity (proposed to be the NJ-Economic Development Authority) to purchase unsold SRECs from the projects at a pre-determined value (effectively setting a “floor” price). This commitment provides SREC price certainty (eliminating some investment risk) and can help projects secure financing.

Commodity Market Model

- A market-based system relying on the current SREC trading platform, as well as adoption of the proposed underwriter model discussed above.
- The commodity market proposal advocates **extending the SREC trading lifetime to two years** as a means of increasing market flexibility.

Auction-Set Pricing, Standard Contract Model

- An annual auction would determine the market clearing price for SRECs, and then having all sellers and buyers use that price as the basis for determining SREC values under standardized five-year contract terms.
- In exchange for the certainty created by the market-clearing price, the projects would only be able to sell SRECS for those five years.
- In exchange for agreeing to the five-year contract terms and participating in the auction system, the LSEs would be exempt from paying the ACP, whether or not they met the RPS targets.

Hybrid Tariff Model

- The Hybrid-Tariff model includes revenue streams from both SRECs and Tariff payments.
- Offers system owners a mixture of the certainty created by the tariff payments (described in more detail below), while still allowing them to receive revenue (and capture any potential upside) in the SREC market.
- EDCs would be the entities best able to manage the tariff payments, since they are more creditworthy than the LSE's and could rate-base the costs.

Solar REC-Only Pilot Program

Enables Customer to Bypass CORE Rebate Queue

- Voluntary Participation
- Self-Financed Projects, Forego CORE Rebate or Grant
- Obtain OCE Inspection of Solar System
- Remote Monitoring of System Output
- Register System Capacity and Output Estimate
- Financial Statement of Project Financing

SUMMIT BLUE
CONSULTING

PRELIMINARY REVIEW OF ALTERNATIVES FOR TRANSITIONING THE NEW JERSEY SOLAR MARKET FROM REBATES TO MARKET-BASED INCENTIVES

"New Jersey has the potential to maintain its position as a national leader by both surpassing other states in its per-capita development of solar capacity and introducing a successful model for large-scale solar market development. "

Available online at www.NJCleanEnergy.com

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More information on New Jersey's Solar Market at www.NJCleanEnergy.com