



STATE OF NEW JERSEY
Board of Public Utilities
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CLEAN ENERGY

IN THE MATTER OF THE RENEWABLE ENERGY
PORTFOLIO STANDARDS – ALTERNATIVE
COMPLIANCE PAYMENTS AND SOLAR ALTERNATIVE
COMPLIANCE PAYMENTS) DECISION AND ORDER
) REGARDING SOLAR
) ELECTRIC GENERATION
)
)
)

DOCKET NO. EO06100744

(SERVICE LIST ATTACHED)

BY THE BOARD:

This Decision and Order memorializes action taken by the Board of Public Utilities (Board or BPU) at its September 12, 2007 agenda meeting in connection with the Board's Clean Energy Program (CEP) and the Renewable Portfolio Standards (RPS), N.J.A.C. 14:8-2.1 et seq., and in particular, with regard to transitioning the solar renewable energy market from rebates to market-based incentives. As discussed below, the Board issues this Decision and Order after having provided an extensive opportunity for input by interested persons and entities and after having very carefully considered all of the input provided.

BACKGROUND AND PROCEDURAL HISTORY

The Board's Renewable Portfolio Standards regulations, N.J.A.C. 14:8-2.1 et seq., implement provisions of the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 et seq. (EDECA). The RPS regulations require electric power suppliers and basic generation service (BGS) providers (as defined in N.J.A.C. 14:8-1.2) to include minimum percentages of qualified renewable energy in the electricity they sell; those minimum percentages increase over time. The rules specify separate minimum percentages for solar electric generation, for Class I renewable energy, and for Class II renewable energy, as each of these categories of renewable energy is defined by

N.J.A.C. 14:8-1.2. . Currently, the rules require that solar electric generation be the source of at least 0.0817 % of the electricity sold in New Jersey; by the Reporting Year beginning June 1, 2020, that requirement will increase to 2.12%.

To comply with the solar electric generation portion of the RPS, suppliers and providers obtain and use Solar Renewable Energy Certificates (Solar RECs or SRECs). A Solar REC represents the environmental benefits or attributes of one megawatt-hour (MWh) of solar electric generation. N.J.A.C. 14:8-2.2. A supplier or provider who holds too few Solar RECs to meet the RPS can make up for the shortfall by paying a Solar Alternative Compliance Payment (SACP). N.J.A.C. 14:8-2.3(e); N.J.A.C. 14:8-2.10.

The ability to meet the solar RPS depends on growth in solar installations. To some extent, a solar electric generation system brings its own incentives. A customer who installs a solar electric generation system will see lower electricity bills. The customer can also gain credit for excess electricity produced through net metering. The customer also has the satisfaction of fulfilling at least part of his or her electricity needs without causing emissions of greenhouse gases or other air pollutants. However, these built-in incentives are often insufficient to overcome resistance to making the large initial capital investment, a lack of familiarity with the technology and its benefits and performance, a limited (but growing) installation infrastructure, and long-term uncertainties about markets and their regulatory underpinnings. Therefore, a combination of incentives has thus far been necessary to help spur the development of solar electric generation systems needed to enable electricity suppliers and providers to comply with the solar RPS: federal tax credits,; the monetary value of the SRECs, created by the need for suppliers and providers to comply with the solar RPS ; and, lastly, the rebates provided by the Board's Clean Energy Program to help offset the cost of installation.

The Board has recognized the need to reduce reliance on rebates and rely more heavily on other incentives, in its Order dated January 19, 2007 in the within docket (hereinafter referred to as the January 19th Order). Between May 2001 and August 2007, 40 megawatts (MW) of solar generating capacity was installed in New Jersey, assisted by more than \$170 million in rebates, or about \$4.25 million per megawatt. If the rebate levels were to remain unchanged, achieving the 2.12% solar RPS requirement by 2021 would require an estimated \$9.6 billion in rebates, adding about 6.5% to electricity rates. Furthermore, strong interest and high participation in the solar portion of the rebate program has, since early 2006, led to the program being over-subscribed, resulting in queues for applicants awaiting rebate funding. Therefore, the Board has sought a more efficient and sustainable means of providing the incentives needed to achieve the solar RPS.

In April 2006, the Board approved an expanded Renewable Portfolio Standard which requires that by 2020, 20% of the electricity supplied to New Jersey customers be generated from Class I Renewable energy systems including a minimum requirement that 2% of the electricity be supplied from New Jersey based solar systems. In May 2006, the Clean Energy Council's¹ Renewable Energy Committee formed an RPS

¹ The Clean Energy Council is open to any member of the public and functions as a public stakeholder group regarding implementation of the RPS.

Transition Working Group to consider various financing models to support the continued growth and expansion of New Jersey's solar market. Thereafter, in July 2006, the Office of Clean Energy (OCE or Staff) initiated RPS Transition Working Group meetings with a white paper entitled "Transition to a Market-based REC Financing System," prepared by the Office of Clean Energy. This working group met several times during the summer and fall of 2006. The result of the working group was the development of four white papers on various transitional financing models. On September 25, 2006, the OCE posted the following four white papers on its web site and solicited comments on them:

1. Underwriting Solar Investments in New Jersey: Achieving Scale in an RPS Dominated Environment: Prepared by Sun Farm Network
2. A Commodity Market-based Transition to Large Scale Sustainable Solar Market: Moving the New Jersey Solar program from Rebates to RECs: Prepared by Madison Energy Consulting
3. A Description of An Auction-Set Pricing, Standard Contract Model with 5 Year SREC Generation: Prepared by SHARP Corporation and Advanced Solar Products, Inc.
4. Tariff Model Outline: Prepared by WorldWater and Power Corporation

These white papers were the subject of several public meetings during the fall and winter of 2006 to discuss various aspects of the models with interested parties. These discussions helped shape the development of the solar transition option recommended by Staff.

In the January 19th Order, the Board directed the Office of Clean Energy to conduct a public stakeholder process to solicit comment on changes to the RPS regulations. The Board's January 19th Order set out the reasons the Board believes changes to the RPS regulations are required: anticipated shortages in the installed capacity necessary to meet RPS percentage requirements and Customer On-Site Renewable Energy (CORE) budget constraints which make it impossible for the rebate program alone to make up the shortfall. The Order also included a procedural schedule for this public stakeholder process, including public hearings, and directed the OCE to present policy recommendations to the Board for its consideration by the end of July 2007.² In addition, the Order implemented an SREC-only pilot program (SREC-only Pilot or Pilot), more fully described below.

The January 19th Order requested that data, technical reports and other information be solicited on the following issues:

- 1 What is the expected shortfall in solar photovoltaic (PV) capacity required to meet the RPS if the SACP levels for 2009 and 2010 remain at their current level of \$300 per MWh?

² At its August 1, 2007 agenda meeting, the Board extended the time for final policy recommendations, as well as the first phase of the SREC-only Pilot, to September 12, 2007. In this Order, the Board considers a Staff recommendation to continue the Pilot until such time as the actions taken in this Order are codified in rules.

2. What is the optimal SACP level required to ensure that sufficient solar PV capacity will be installed to meet the RPS goals at the least cost to the New Jersey ratepayer?
3. For what number of years should the SACP be established? Should it be established only for the Reporting Years (RY) of the next BGS auction timeframe of RY 2008-2010, a longer period of time, or shorter? What timeframe is reasonable?
4. Should the SACP in RY 2009 start at a higher level and decrease over subsequent Reporting Years, or should it start at a relatively low level, but higher than the RY 2008 level, and increase over multiple Reporting Years?
5. Can the SACP be structured to enable different SREC prices for solar electricity delivered by rebated and non-rebated solar facilities?
6. Should the SACP and the subsequent SREC have a life for payment for the renewable energy? Should the SREC continue only until the system is "paid for"? How long should that timeframe be?
7. What are the advantages and disadvantages to the Board's posting a multi-year schedule for SACP levels?
8. What are stakeholders' views regarding the Board's detailed economic analysis of the customer bill costs and the rate impacts of transitioning to a certificate-based financing system without rebates?

The January 19th Order also directed that, subject to all relevant legal and administrative guidelines, the scope of work for Summit Blue Consulting (Summit Blue), which had already been engaged to perform an analysis of the Renewable Energy markets, be expanded to include an independent economic analysis to assist in answering the questions set out above. See Order in Docket EO05080656 (August 16, 2006.) Specifically, the Order directed that Summit Blue perform a more detailed analysis of scenarios utilizing various potential SACP schedules and their associated impacts on: 1) ratepayer costs, and 2) their ability to stimulate the level of development needed to meet RPS requirements. (January 19th Order at page 12). Summit Blue was also asked to assess several proposed SACP financial models that had been submitted to the OCE as discussed below.

On March 15, 2007, having reviewed the white papers listed above, interviewed the authors and other stakeholders, and performed its own independent analyses of the proposals, Summit Blue issued a report, posted to the Clean Energy Program's website, entitled "Preliminary Review of Alternatives for Transitioning the New Jersey Solar Market from Rebates to Market-Based Incentives" that presented the results of its assessment. Summit Blue's findings will be discussed further below.

On April 24, 2007, Summit Blue, having performed additional analyses, issued a second report, entitled "An Analysis of Potential Ratepayer Impact of Alternatives for Transitioning the New Jersey Solar Market from Rebates to Market-Based Incentives." This report was also posted on the BPU and CEP web sites.

On or about May 1, 2007, the OCE prepared, circulated to renewable energy list serves and posted on the BPU and CEP web sites a proposed Solar Stakeholder Schedule. Pursuant thereto, on May 9, 2007, OCE held a public stakeholder meeting at which

Summit Blue provided a presentation of the results of its analyses as set out in its two aforementioned reports, answered questions and addressed comments.

On May 25, 2007, the OCE issued its Straw Proposal titled "New Jersey Renewable Energy Solar Market Transition Straw Proposal." The Straw Proposal was a preliminary proposal intended to solicit additional comments on specific issues and was circulated to the renewable energy list serves as well as posted on the BPU and CEP web sites.

On June 6, 2007 and June 7, 2007, two public hearings, chaired by Commissioner Joseph L. Fiordaliso, were held, respectively, in Newark, New Jersey and Trenton, New Jersey. Thereafter, initial written comments were received by June 22, 2007. On or about July 3, 2007, the OCE posted on the CEP web site all of the initial comments received. An opportunity was provided for responses and rebuttals to those comments through July 16, 2007, and pursuant thereto, additional comments were filed.

Based on the comments received, Summit Blue was asked by OCE to update and revise certain sections of its April 24th report to reflect additional information gathered. At the Board's August 1, 2007 agenda meeting, the OCE presented certain preliminary recommendations to the Board regarding these matters. At this meeting, the Board deferred final resolution of these matters to its September 12, 2007 agenda meeting and directed OCE to schedule and hold an additional public stakeholder meeting and to solicit comments on the forthcoming revised Summit Blue report. Summit Blue issued its revised report dated August 6, 2007.

On August 2, 2007, the OCE issued a discussion paper intended to solicit additional comments to assist the OCE in developing a revised Straw Proposal. The discussion paper also included a schedule that provided for a public stakeholder meeting to be held on August 9, 2007, for OCE to issue a revised Straw Proposal by August 13, 2007, and for additional comments on the August 13th Straw Proposal by August 22, 2007.

On August 8, 2007, the OCE issued a revised Straw Proposal for discussion at the August 9th public stakeholders' meeting. On August 9, 2007, a public stakeholders' meeting was held at which Summit Blue presented its revised report and OCE Staff solicited comments on its revised Straw Proposal. On August 13, 2007, the OCE issued its Revised-Final Straw Proposal that reflected Staff's consideration of comments received at the August 9th stakeholder meeting. On August 24, 2007, the OCE issued a Revised-Final Straw Proposal, attached as Exhibit A and made a part hereof, that corrected a ratepayer impact table included in the August 13th proposal. The OCE extended the deadline for comments on the Straw Proposal until August 29, 2007, to allow for comments on the revised proposal and on additional modeling results that were issued by Summit Blue on August 23, 2007. Comments on the Revised-Final Straw Proposal have now been received.

A synopsis of the May 25, 2007 and August 13, 2007 Straw Proposals follows, as well as summary descriptions of the alternate models considered in the public stakeholder process, as a preface to a summary of comments received.

The May 25th Straw Proposal introduced the concept of an 8-year Solar Alternative Compliance Payment schedule and included specific proposed SACPs for each of the first eight years. The proposed schedule was a rolling one, in which every year, after the establishment of an initial 8-year schedule, the first year on the schedule would have passed and the Board would add a new last year to the schedule. The SACP values for the other years would remain unchanged. The Straw Proposal recommended continuing rebates for small systems less than 10 kilowatts (kw) and introduced the idea of community based systems, which is discussed further below. The May 25th Straw Proposal defined SREC qualification life as the number of years a system can create SRECs, and proposed that once the SREC qualification life is reached, the facility would no longer be eligible to generate SRECs but would be eligible to generate Class I RECs. The OCE Straw Proposal recommended varying SREC qualification lives for different types of projects such as private, public, large and small.

The OCE's Revised-Final Straw Proposal issued on August 13, 2007, with a correction on August 24, 2007, maintained the basic construct of the initial Straw Proposal, including an 8-year SACP schedule and rebates for small projects. However, the Revised-Final Straw Proposal eliminated the idea of varying SREC qualification lives for different types of projects and instead proposed to fix the SREC qualification life at 15 years for all projects. The Revised-Final Straw Proposal also increased the recommended SACP levels in each of the first 8 years in response to comments that higher SACP levels were needed to generate a level of return necessary to enable the financing of sufficient projects to meet the Board's RPS goals.

The Revised-Final Straw Proposal also recommended long term monitoring of progress towards achieving the goal of a sustainable solar industry that does not require subsidies. The Revised-Final Straw Proposal also recommended capping the level of ratepayer subsidies. Additionally, the Revised-Final Straw Proposal recommended that the Board continue the public stakeholder process to evaluate whether and how additional securitization can help to lower ratepayer costs or is otherwise warranted. The OCE's Revised-Final Straw Proposal issued on August 24, 2007 did not modify any of the recommendations included in the August 13, 2007 straw proposal but updated some of the estimates of ratepayer impacts to reflect corrected estimates.

SUMMARY OF COMMENTS

This section summarizes the comments received upon the Staff recommendation and the alternative models just described.

Written comments were received from: the Department of the Public Advocate, Division of Rate Counsel; Public Service Electric & Gas (PSEG); Sun Farm Network; Advanced Solar Products; PV Now; EVCO Mechanical Corporation; New Jersey Housing and Mortgage Finance Agency (HMFA) and Green Homes Office; Soltage; Pfister Energy; Constellation Energy Commodities Group (Constellation Energy); Clean Energy Advocates; New Jersey Chapter of National Association of Industrial and Office Properties (NAIOP)); Sierra Club; New Jersey Large Energy Users Coalition (NJLEUC); Solar Alliance (merger of PV Now and Americans for Solar Power); Jersey

Central Power and Light Company(JCP&L); Mid Atlantic Solar Energy Industries Association (MSEIA); Trinity Heating and Air, Inc.; New Jersey Sustainable Energy Industries Association (NJSEIA); Green Alternatives Inc.; Sunpower (formerly PowerLight); New Jersey Business and Industry Association (BIA); and Crystal Clear Solutions

In addition, the following entities/individuals provided comments at the public hearings:

Tom Kuster, CEO of Turner Renewable Energy, previously Dome-Tech Solar; Mark McLanahan, MMS Renewable Ventures; Farly Hunter, Novartis; Steven Goldenberg, NJLEUC; Mark Warner, CEO-Sun Farm; James Torpey, PV Now; Claire Brolato, Con-Edison-VP of Strategy; David Weisman, Principal of Green Alternatives; Felicia Thomas-Friel and David Dismukes on behalf of Rate Counsel; Robert Simpson, Brother Sun Solar; Cassandra Kling; Leta Lieu, Global Warming and Clean Energy Advocate at Environmental New Jersey; Scott Schultz, EVCO Mechanical Corporation (EVCO); William Potter, Esq., Potter and Dickson, on behalf of New Jersey Solar Power and Advanced Solar Products; Steven Gabel, Gabel Associates; Lyle Rawlings, Advanced Solar; Fred Lynk, PSE&G; John Macklin, Clean Energy Advocates; Elliot Shanley, PV One; Felix Aguayo, Power Light; Brian Bulowsky, W.I. Industries; Susan Legros, MSEIA; Bill Hoey, NJ Solar Power; Tom Ryan, Pfeister Energy; Dolores Phillips, EPV.

OCE received a total of twenty-three responses to requests for public comment to two Straw Proposals for multi-year SACP schedules posted, respectively, on May 25, 2007 and August 13, 2007. Several stakeholders submitted comments on both versions of the straw proposal.³

A summary of the comments submitted, organized by the following major topics is set forth below. While the Board is summarizing the comments herein, the Board emphasizes that it has considered all comments in their entireties in reaching its decisions herein.

1. Overall Proposed Approach/Financial Model
2. Total Cost and Annual Rate Impact: 8 Year SACP Schedule
3. SREC Vintage
4. Rebate Levels and Block Sizes
5. Legacy Systems
6. Community Solar Systems
7. SREC Pilot Program Extension
8. Monitoring Costs of Solar Installations and "Safety Valve"
9. Securitization
10. Rulemaking

³ Rate Counsel, Sun Farm Network, Sunpower, Solar Alliance, Soltage, New Jersey Sustainable Energy Industries Association, Clean Energy Advocates, and Sierra Club all submitted comments on both the May 25th and August 13th versions of the OCE Straw Proposal.

1 Overall Proposed Approach/Financial Model

The following provides a brief description of the various financial models proposed during this proceeding, which are discussed further below:⁴

Continued Rebates / SREC Model: This model is the closest scenario to the current CORE program offering. It uses a combination of rebates and the SREC market to provide the incentives to meet the targeted internal rate of return (IRR). This model assumed current rebate levels, decreasing at a rate of 1.4% annually. The remaining incentive comes through the SREC market. This scenario assumes no SACP cap which allows the SREC value to float to meet targeted IRR by project type.

SREC Only Model: This is the most market-based and performance-based incentive (PBI) of the proposals. The SREC market is used to provide the incentives to meet the targeted IRR. In this model, the SREC values vary to produce the target IRR.

Underwriter Model: This model provides a 15-year SREC floor for the SREC prices which provides securitization for projects. The underwriter would have a maximum exposure proportional to the SREC floor value. It is assumed that there is an active SREC market, and the SRECs sold in the market would provide the incentives under this scenario. In this model, SREC values vary to produce the target IRR.⁵

Commodity Market Model: This model provides incentives through the SREC market for all projects and includes a 15-year SREC floor using the underwriter approach. For projects less than 100 kW, the current rebates would continue for three years to help the market through the transition. After three years, the rebates would be discontinued and the incentives would come solely from the SREC market.

Auction Model: An auction process is used to produce a fixed five-year SREC value for projects initiated in each auction year. Five-year SREC contracts are used to provide securitization for project. In this model SREC values vary for projects initiated in each new project year to produce the target IRR.

15-year Full Tariff Model: A 15-year Full Tariff, in which EDCs would issue premium payments or credits under a tariff rate structure to solar project owners on a per Kwh basis, is used, the payment or credit declining according to a pre-determined schedule. The tariff provides securitization for project.

⁴ The Underwriter, Commodity, Auction and Hybrid Tariff models were submitted by the RPS Transition Working Group. Summit Blue added the SREC-only and Full Tariff models in its March 15, 2007 report analyzing transition options. In addition, Summit Blue analyzed the existing or "baseline" scenario.

⁵ The Board notes that Public Service Electric and Gas Company (PSE&G) filed with the Board a proposal involving that utility providing financing to ratepayers for solar installations. That proposal is under consideration in a separate docket, I/M/O Petition of PSEG for Approval of a Solar Energy Program and an Associated Cost Recovery Mechanism, Docket No. EO07040278

In this model incentive risk premiums for developers are very low (no dependence on SREC revenue). The tariff is an adder to the current value of existing electric rates offset by PV generation.

Hybrid Tariff Model: A 10-year tariff combined with the SREC market. The tariff portion of the incentive provides some securitization for projects. In this model the tariff rate is set to 37.5% of 15-year Full Tariff scenario with SRECs providing the remaining incentive.

Staff proposed introducing a multi-year SACP schedule based on a target internal rate of return of 12%, combined with fifteen-year qualification lifetimes and rebates for smaller systems. While several parties have suggested alternatives to specific details of this approach, most stakeholders recognized the approach as a viable solution that balances the various policy goals the Board seeks to achieve.

Some stakeholders expressed strong opposition to the proposed approach. Rate Counsel believes that the lack of SREC value securitization offered by the approach, coupled with its dependence on administratively set SACPs, qualification lifetimes and rebate levels make the approach inefficient and costly. Rate Counsel also challenged OCE's cost estimate for the proposed approach stating that its cost impacts were never compared to other potential solar transition models using the same set of standard assumptions, and that administrative and rebate-related costs were never factored into OCE's cost estimate. Rate Counsel suggested adopting an annual auction system which it asserts, based on its own modeling, would be less costly for New Jersey ratepayers.

Some stakeholders stated their preference for specific securitization models. Advanced Solar Products, EVCO, Clean Energy Advocates, NJSEIA, and Pfister Energy all expressed support for a tariff model. EVCO and NJSEIA both argued that this model is the approach most suitable for meeting the varying needs of different project types. Advanced Solar Products presented an opinion from its counsel that the Board has authority to implement a tariff system.

Other strong opposition to the overall proposed approach came from NJLEUC, the BIA, and the Sierra Club. NJLEUC stated that the proposed approach would raise SREC prices, resulting in high costs for large commercial and industrial consumers, and would put these businesses at a competitive disadvantage relative to their competitors in other states. NJLEUC urged that the Board adopt a rate cap on the overall cost of meeting the solar RPS. In addition, NJLEUC suggested that OCE promote the installation of larger, more cost-effective systems, and that the Board allow some large energy users to opt out of paying the Societal Benefits Charge (SBC) if they can demonstrate that they are implementing substantial efficiency measures on their own. BIA urged the Board to delay decision-making on a multi-year SACP schedule until a number of other issues affecting New Jersey's energy future are resolved, including the Energy Master Plan and the Regional Greenhouse Gas Initiative planning. The Sierra Club's opposition to the proposed approach stemmed from its belief that the proposed system would provide insufficient support to ensure solar development in low-income areas,

and that the proposal did not provide adequate detail regarding the use of rebates and a potential community-based solar initiative.

2. Total Cost and Annual Rate Impact: 8-Year SACP Schedule

As noted above, Staff proposed a rolling SACP schedule. Most stakeholders either supported or were willing to accept a rolling SACP schedule in concept. Sun Farm Network advocated a ten year schedule and Constellation Energy suggested New Jersey adopt the fifteen-year SACP schedule selected by Maryland. Solar Alliance suggested the Board provide a specific date each year upon which it would define the new SACP level for the eighth year in the rolling 8-year schedule. PSE&G suggested the Board set an SACP level and then maintain that level until a change is clearly needed. JCP&L requested that current BGS auction contract holders not be held to paying solar costs higher than those which existed at the time when the auction contracts were established. Clean Energy Advocates presented an argument that SACP levels should decline at a rate based on the assumption that solar costs will decline by 10% annually.

a. Qualification Lifetimes

As discussed earlier, Staff proposed restricting the time during which a solar facility can generate SRECs—its “Qualification Life” (QL)—to fifteen years. Some stakeholders supported the qualification lifetimes proposed in the final version of Staff’s straw proposal. Several stakeholders opposed the concept of restricting the period during which solar projects can receive SRECs, but recognized the use of qualification lifetimes as an acceptable approach given the importance of limiting ratepayer impacts and potential windfall profits that past rebate-funded projects would receive once SREC levels increase under a multi-year SACP scenario (MSEIA, Solar Alliance, PSE&G, Soltage, Sun Farm Network, Sunpower). Sun Farm Network argued that fifteen years is the minimum period that would be acceptable in order for projects to achieve the necessary return on investment. Green Alternatives, Inc., while strongly opposed to the concept of qualification lifetimes, suggested that if they are implemented their length should coincide with that of solar panel warranty lengths (twenty to twenty-five years), and Constellation Energy argued that qualification lifetimes should be consistent with the life of a typical solar installation. Soltage suggested that qualification lifetimes should align with the duration of debt financing, which is typically fifteen years for New Jersey solar investments.

Rate Counsel, JCP&L, NJSEIA, and Green Alternatives expressed strong opposition to the use of qualification lifetimes. All three argued that qualification lifetimes fail to reflect the fundamental nature of solar projects as producers of clean renewable electricity for the entire life of each project. Green Alternatives argued that “SRECs are not an incentive payment. The price an LSE [load serving entity] pays for an SREC represents the societal value of the environmental attributes only.” JCP&L argued that the use of qualification lifetimes highlights that SRECs are a regulatory construct, and would, therefore, increase perceptions of regulatory risk. Both Rate Counsel and JCP&L argued that the use of qualification lifetimes is inconsistent with the treatment of Solar RECs in other states in the region and would therefore decrease the regional

compatibility of New Jersey's solar market. Rate Counsel also expressed concern that use of qualification lifetimes would reduce the incentive for systems to maintain operation after the end of the qualification lifetime. Some stakeholders also argued that use of qualification lifetimes would result in a need to increase the overall amount of solar installations needed to meet the RPS requirement.

b. Target Internal Rate of Return (IRR)

Staff proposed a target IRR, or return on investment, of 12% which, as explained more fully below, yields a 6-year payback period for the investment in a solar electric generation system.. Most stakeholders supported using a 12% target IRR as the basis for decision-making. Sun Farm Network and MSEIA stated that this is the minimum acceptable level for an IRR target. EVCO and NAIOP said their investors actually use payback hurdle rates of five years or less for determining which investments to pursue, which implies an IRR significantly in excess of 12%. Sunpower stated that industry experience demonstrates the need for payback thresholds of seven to ten years for smaller systems and five to seven years for larger systems.

NJSEIA disagreed with the target IRRs referenced in OCE's proposals and analysis, suggesting that they are not based in evidence from the market. NJSEIA suggested surveying existing program participants to obtain better data on IRR hurdle rates.

c. Initial SACP Value and Rate of Decrease

Staff proposed an initial SACP level of \$711, to decrease at 3% annually. Stakeholders provided a great deal of input on establishing appropriate SACP levels including, in some cases, specific proposals for an SACP schedule. MSEIA, Solar Alliance, and Sun Farm suggested starting with a higher level than proposed by OCE and then dropping the levels more rapidly and at different increments than the steady rate of decline proposed by OCE. Specifically, Solar Alliance suggested starting with a 2009 SACP of \$761, and Sun Farm Network suggested starting at \$900 in 2009. Sun Farm Network and MSEIA argued that the initial higher SACP levels were needed to cover transaction costs that will be higher during the earlier years. Solar Alliance asserted that SACP levels would need to be higher than proposed if projects are only relying on 15-year SREC incomes, and no additional securitization of SREC values.

JCP&L and PSE&G both asserted that the SACP levels could start out lower than those proposed by OCE. JCP&L suggested that the SACP level should start at \$600 and remain in place until sufficient evidence exists that a change is necessary. This was based on JCP&L's conclusion that OCE's analysis was based on electricity rate assumptions that are lower than rates currently in place in the State. Based on its own internal analysis, PSE&G maintained that an SREC value of \$475, coupled with a 15-year qualification life, would be acceptable (assuming a 9% target IRR is sufficient to stimulate project development). Pfister Energy suggested setting the SACP at \$480 for 2009 with a target SREC value of \$400.

Solar Alliance agreed with OCE that \$100 is an appropriate difference between the estimated SREC value needed by the market and the SACP level, and it also

recommended rounding the SACP levels off to the nearest five dollars. Sun Farm and MSEIA argued that the level should be at least \$150 over the needed SREC value during the first two years, and then should drop to \$100 over the needed SREC value in later years. Clean Energy Advocates suggested setting SACP levels 25% to 30% higher than the SREC values needed by the market.

3. SREC Vintage

Staff proposed increasing the trading life, or vintage, of SRECs from one year to two. Several stakeholders expressed support for the proposed trading lifetime (Solar Alliance, Sun Farm, MSEIA, Soltage and Sunpower.) Sun Farm stated that a two year trading lifetime will facilitate market balance and improve consistency with other markets in the region. Solar Alliance noted that, in order for a multi-year trading lifetime to work well, the industry will need access to timely information on the status of SRECS in the marketplace.

4. Rebate Levels and Block Sizes

Staff proposed continuing rebates for systems under 10 kW in a block schedule size, with these rebates to be phased out by 2012. In a rebate block schedule a certain rebate level is set for a specific capacity in megawatts of systems to be installed. Once that capacity of systems in megawatts is installed, the rebate offered to the next block of capacity is automatically reduced. The majority of stakeholders supported offering rebates to smaller systems to level the playing field with for-profit commercial entities that can take advantage of substantial federal tax benefits and economies of scale. Many offered specific suggestions on the structure of the rebate program. Solar Alliance and MSEIA argued that rebates should be offered to systems up to 50 kW in size, and MSEIA suggested that incentive levels should vary between systems under 10 kW and those in the 10-50 kW range. Trinity argued that rebates should only be offered to systems less than or equal to 10 kW in order to disperse funds more broadly and suggested that the Board should strive to achieve 20% annual growth in systems less than 10 kW to ensure that residential ratepayers are able to participate in the market on equal footing with commercial entities. Pfister Energy suggested that rebates be provided to all systems up to 40 kW, and that rebates should be provided to non-profit projects up to 100 kW. Pfister Energy also suggested that a five-year rebate program budget should be established.

EVCO argued that rebate levels proposed in the May 25, 2007 OCE Straw Proposal were too low. Sun Farm and MSEIA both suggested that the specific details of rebate offerings should be dealt with in the Comprehensive Resource Analysis (CRA) proceeding (Docket No. EO07030203). Sunpower cautioned that the proposed block structure could cause unnecessary stops and starts in market activity.

EVCO and the HMFA argued that non-profits should not be treated like commercial and industrial entities since they cannot take advantage of tax benefits. In addition, they noted that, while power purchase agreements (PPAs) can enable public and non-profit projects to get built, they do not always provide favorable terms for the end-user;

therefore, in their view, additional viable development scenarios should be available to non-profits and public projects.

5. Treatment of Legacy Systems

Staff proposed to provide systems that have already received CORE rebates with the same qualification lifetime offered to new systems but to start the qualification lives of the legacy systems from the Reporting Year at which they became operational. With the exception of those stakeholders who opposed the use of qualification lifetimes completely (Green Alternatives, JCP&L, NJSEIA, and Rate Counsel), most stakeholders accepted the Straw Proposal's treatment of legacy systems. Two stakeholders said the proposed treatment of legacy systems constitutes a retroactive change in rules, but recognized the need to balance various policy goals (Solar Alliance, Sun Farm Network).

6. Community Solar Systems

Staff proposed soliciting input from stakeholders on the design of a specific community based solar program, which would allow residences or small businesses to "buy" into a centrally located project. A number of stakeholders expressed support for a community based solar initiative (MSEIA, Sierra Club, Solar Alliance, Soltage, Sun Farm Network). No stakeholders expressed opposition to the concept. Sun Farm Network asserted that a community solar program presents a great opportunity for market growth and for New Jersey to be a national leader in solar development. The company suggested that the program begin with an open solicitation for pilot project proposals that could test the concept. Solar Alliance suggested that a consultant should be retained to draft a white paper discussing potential program mechanics and legal issues. Both Soltage and Sunpower suggested that details of a community solar program should be determined as part of a separate proceeding since few details have been provided thus far and the public has not had an opportunity to comment on any specifics.

There is currently a 2 MW entity cap on eligibility for net metering, which constrains the ability of any community solar project to participate in the SREC market. The question of enabling these systems to receive SRECs touched upon the broader issue of enabling large systems in general to receive them. The 2 MW cap is found at N.J.A.C. 14:4:9.3, and any change would entail a rule amendment.

Solar Alliance, Soltage, and Sun Farm Network all support the concept of enabling the proposed community systems to receive SRECs. NJLEUC and Constellation Energy also encouraged OCE to promote the development of large systems. Support for the development of large systems was generally based on the fact that large project development is more cost effective, resulting in lower ratepayer costs. Several stakeholders stated that the market should be able to determine the number of systems any one entity chooses to develop (EVCO, Constellation Energy, Solar Alliance, Sunpower). Constellation Energy asserted that large developers tend to have the best credit profiles, and that this positions them to develop projects more cost effectively than others; therefore, in its view, large developers should not be restricted from realizing the

full extent of their project development interests, as this will enable New Jersey to achieve solar RPS requirements at a lower cost to ratepayers.

NJSEIA, on the other hand, urged that project size limitations be set to enable SREC revenues to be distributed across a larger number of market participants, to increase the number of systems providing relief to the distribution network, and to improve the potential for job growth.

7. SREC Pilot Program Extension

On August 1, 2007, Staff proposed extending participation in the SREC-Only Pilot, through which an individual or entity may opt to install a solar facility and participate in the SREC market without participating in the CORE rebate program, to September 12, 2007.⁶ I/M/O Recommendation for Alternative Compliance Payments and Solar Alternative Compliance Payments, Docket No. 06100744. Solar Alliance and Sun Farm Network both expressed support for continuation of the Pilot Program. Sun Farm Network argued that continuation of the Pilot is necessary in order to facilitate new market activity. MSEIA noted that some of its members are concerned that pilot projects preclude SRECs from being generated by the residential and small commercial sectors, and believe that the program rules should be better defined before proceeding to a second phase of the Pilot. NJSEIA opposed extension of the Pilot until other market issues are resolved, arguing that there is a risk of oversupplying SRECs to the market.

8. Monitoring Costs of Solar Installations and “Safety Valve”

Staff proposed that the Board order a continued public stakeholder process to develop the mechanics for capping ratepayer costs. Staff further proposed that the Board institute a rulemaking process to implement a “safety valve” which would maintain the current RPS if the SREC supply did not match demand. Clean Energy Advocates, arguing that the solar industry is likely to see 10% annual decreases in system costs, suggested adoption of the objective of achieving “grid parity,” or solar generation of electricity at a cost equal to or less than the cost of conventional electrical generation, by 2015. The commenter recommended adjusting incentives as needed to achieve the objective. Sun Farm Network disagreed with the notion that solar costs could achieve grid parity by 2015, and suggested a goal for solar costs to achieve grid parity by 2021. The company suggested that progress toward this goal should be measured based on the ability of system costs to track a reasonable trajectory for cost decline over time.

Several stakeholders discussed the importance of providing the public with accurate, timely market data. MSEIA and Sunpower stressed the importance of the industry having access to data on the number of projects in the development “pipeline” and projections for the number of SRECs generated.

⁶ Staff now proposes extending the Pilot until such time as the proposed changes to the RPS can be codified in rules.

Other monitoring devices were also proposed. Green Alternatives, Solar Alliance, and Sun Farm Network all supported the concept of adjusting RPS requirements in a given year in order to allow for fluctuations in the market's ability to maintain a steady growth rate. Sun Farm Network described a scenario in which the RPS requirement would be accelerated in years in which there are more SRECs than required by the RPS, and decelerating the RPS requirement in years when the market is unable to supply enough SRECs, provided that the total number of SRECs provided by the market by 2021 remains unchanged, and that the fluctuations in RPS requirements do not increase the total cost of meeting the RPS on a Net Present Value (NPV) basis.

Several stakeholders expressed support for some form of rate cap or cost containment (MSEIA, NJLEUC, Solar Alliance, Soltage, Sun Farm Network). NJLEUC presented cost containment as a critical element of a multi-year SACP plan, citing several other states that have contained RPS compliance costs either in general, or specifically for large industrial consumers. Sun Farm Network recommended setting a goal to limit overall costs to 2% of total retail electricity sales over the period of 2009 to 2036 on a NPV basis.

9 Securitization⁷

Staff proposed that the stakeholders continue to investigate whether and how further measures to provide security to investors, in addition to the Multi-Year Schedule of SACPs, might be necessary and could proceed. There was agreement among most stakeholders that the multi-year SACP schedule on its own would not provide the level of long-term confidence in SREC values that the market needs. Many stakeholders (Advanced Solar Products, Clean Energy Advocates, EVCO Mechanical Corp, HMFA, MSEIA, NJSEIA, PSE&G, Rate Counsel, Sierra Club, Solar Alliance, Sun Farm Network, Trinity, Sun Power) argued in favor of additional mechanisms that would offer the additional securitization of SREC values which they believe necessary in order for the solar market to achieve the State's solar RPS goals while minimizing ratepayer costs. PSE&G expressed this stakeholder position when it stated, "The nascent solar market needs some form of long-term government sanctioned backstop in the range of 15-20 years in order to continue to evolve." Sunpower stressed that SACP levels are not a guaranteed value and that SREC values will continue to be determined based on supply and demand. Rate Counsel argued that the lack of securitization offered by the proposed multi-year SACP approach will produce insufficient regulatory certainty, raising risk premiums and resulting in unnecessarily high ratepayer costs.

Many stakeholders suggested that proceedings should be commenced to address the securitization issue immediately. The NJSEIA urged that the decision-making on the issue of securitization should take place within the current proceeding rather than being postponed for discussion at a later date. Rate Counsel argued that a great deal of discussion of alternative securitization approaches has already taken place and that further exploration of the concept is not necessary prior to taking action.

⁷ "Securitization" is used here to mean measures designed to provide assurances of market stability to market participants. It should not be taken to have the meaning assigned to this term in the context of EDECA..

Rate Counsel proposed an annual auction system that would facilitate long-term (10, 15, or 20 year) contracts between Load Serving Entities and SREC sellers. Rate Counsel pointed to its own modeling as proof that either the auction model, in conjunction with long-term contracts, or the tariff model would be significantly less costly than the multi-year SACP approach.

Solar Alliance listed a variety of securitization models for further consideration including: 1) voluntary Electric Distribution Company (EDC) SREC-based loans; 2) mandatory EDC long-term SREC contracts; 3) long-term LSE SREC contracts; and 4) an underwriter approach.

Sierra Club suggested that the BPU should redesign the BGS auction system to reflect the changes taking place in the solar market. NAIOB suggested that the New Jersey Economic Development Authority should guarantee some SREC contracts.

10. Rulemaking

Staff has proposed rulemaking, which may be done as a single process or as multiple rulemakings, on many of the items contained in the Final Revised Straw. Subsequent to the August 29, 2007 deadline for submittal of comments, by letter dated September 10, 2007, New Jersey Solar Power and Advanced Solar Products submitted "Supplemental Comments" requesting that the Board refrain from any action on Staff's proposal until it had engaged in a rulemaking proceeding. These parties assert that the proposal requires several extensive changes to the RPS rules and thus should await formal notice and the provision of an opportunity to be heard.

The Board also notes that there were comments presented regarding metering in connection with the issues set forth above. As set forth in the current pilot program provisions approved by the Board in its January 19, 2007 Order, to participate in the Pilot all systems must be metered, with the ability to communicate remotely to the certificate trading and trading platform. JCP&L argued that all systems should be metered in order to avoid errors in generation estimates and potential for fraudulent activity. Trinity Heating and Air opposed the metering requirement unless monitoring systems could be installed at no additional cost to ratepayers.

STAFF RECOMMENDATIONS

After consideration of the comments provided at the August 9, 2007 public stakeholder meeting and on the Final-Revised Straw Proposal, Staff provided its final recommendations to the Board.

The Board's RPS regulations require that 2.12% of the electricity used in New Jersey must come from solar (PV) by 2021, or an estimated 2,300 MW of solar capacity.⁸ This is one of the largest solar programs in the country. New Jersey's current solar financing program relies on a combination of federal tax credits, net metering benefits (avoided

⁸ Estimate based on the current rate of growth in electricity usage. With the implementation of Governor Corzine's 20% energy reduction goal, the solar RPS requirement would be significantly less - approximately 1,700 MW.

electricity costs), solar renewable energy certificates, and rebates to reduce the cost of installation. This combination of incentives has been integral to the market's growth. However, as noted above, the cost of the program has been relatively high. From May 2001 through August 2007, 40 MW of solar was installed in New Jersey at a cost of approximately \$4.25 million in rebates per MW. At this rate, achieving the 2.12% solar RPS requirement by 2021 would cost an estimated \$9.6 billion.⁹ The total retail electric market during this thirteen year time frame would be approximately \$146 billion. These relative costs mean that producing 2.12% of the State's electricity usage could result in a 7.5% rate impact over this period. A more efficient and sustainable financing model to achieve the RPS requirements needs to be developed. The solar market transition must balance several policy goals. The Board seeks to have installed sufficient solar projects to meet the RPS requirements at the least cost to ratepayers, taking into account fairness and equity to all ratepayer classes, job growth, improved reliability and security, and improved environmental quality.

Having considered all of the commentors' input and Summit Blue's analyses, and cognizant of the Board's policy goals, Staff recommended the following:

Recommendation 1: OCE recommends that the Board adopt a Multiple Year SACP Model with rebates for smaller systems

As described above, a number of models were presented and evaluated by Summit Blue, the OCE and stakeholders. These models included the auction, hybrid tariff, feed-in tariff, commodity, and underwriter proposals. The Summit Blue Reports of March 15th, April 25th, and August 6th evaluated each of these models.

General guiding principles for the market transition formed the primary basis for developing a list of criteria used for evaluating the different models. The primary criteria include:

- Sustained orderly development
- Transaction costs
- Ratepayer impact
- Support for other policy goals

A brief description of these criteria as they relate to Staff's evaluation of the financial models follows:

1. Sustained, orderly market development. The purpose of the RPS is to develop a robust and sustainable market for renewable energy in New Jersey. Meeting the standards, which increase substantially over time, depends on rapid growth in the market. At the same time, the BPU's program must be capable of adapting readily to changing market conditions, such as a substantial oversupply or undersupply of Solar RECs, or a breakthrough in solar technology or in the price of equipment. As market conditions change, the levels of incentives supporting the installation of solar electric

⁹ This is at the current rebate level and if rebates were to stay in place the rebate levels would be lower over time.

generation should adjust as well, so that the incentive is close to the minimum level of support needed to meet the RPS.

A robust and sustainable market also depends on an environment that supports investor confidence. Greater uncertainty in the cash flow associated with solar projects lowers investor confidence, making financing dependent on a promise of higher returns on investment that would offset the greater risk. Reducing that uncertainty has the opposite effect, reducing the cost of financing by supporting lower interest rates and longer repayment terms; if financing costs are reduced, the level of incentives needed to achieve the solar RPS is reduced as well. Reducing regulatory uncertainty to the extent reasonable and prudent is therefore an essential part of supporting sustained, orderly market development.

2. Minimizing ratepayer impacts. Staff understands that energy customers' money funds a major part of the incentives available to support solar energy. Prudence requires that this money be used as efficiently as is practicable. As discussed above, a structure that allows incentive levels to adjust quickly to changes in the market helps to ensure that the cost of the incentive is close to the minimum needed. A structure that reduces regulatory uncertainty to the extent reasonable and prudent also lowers costs and helps to protect the ratepayers' interests.
3. Minimizing transaction costs. Minimizing paperwork and approval processes associated with the incentives, and bringing buyers and sellers together to consummate their transactions with maximum efficiency, maximizes the extent to which incentive funds can be spent on actual construction and installations of systems, rather than on overhead.
4. Supporting other policy goals. Solar electric generation and other sources of renewable energy support the State's efforts to reduce emissions of greenhouse gases and other air pollutants associated with electric power generation. In addition, the program design can support policy goals such as encouraging participation by a wide variety of types of customers, and relieving congestion on the electric transmission system.

Summit Blue's March 15th Report identified key strengths and weaknesses of each financial model, and examined the potential impacts of various future market scenarios. Through this process, Summit Blue determined that none of the proposals presented a clearly superior strategy. Thus, Summit Blue recommended for further review strategies which included a combination of features from the proposals reviewed. These strategies seemed most likely to provide the flexibility to stimulate entrepreneurship and innovation and to adapt in response to changes in market conditions, while still providing enough stability to appeal to investors and lenders. (March 15th Report, at 3)

Summit Blue modeled the OCE straw proposal (Multiple Year Schedule SACP) in its August 6th Report. It is important to note that the ratepayer impact of the OCE straw proposal included in the August 6th Report should not be considered in direct comparison to the other models because different and lower assumed target IRRs were

utilized and the straw proposal was not modeled with the same assumptions used in evaluating the RPI of the other proposals in the April 25th report.

Table 1 summarizes the results of the March 15, 2007 and April 25, 2007 Summit Blue reports evaluating the different models and the OCE straw proposal.

Table 1. Matrix of Models and Criteria¹⁰

	Sustained Orderly Development	Transaction Costs	Ratepayer Impact	Support for Other Policy Goals
1. Rebate/SREC		✓	Medium	✓
2. SREC Only			High	
3. Underwriter Model 15y	✓	✓	Medium	
4. Commodity Market Model	✓		High	
5. Auction Model			Low	✓
6. Full / 15 Yr Tariff Model	✓	✓	Low	✓
7. Hybrid-Tariff Model	✓	✓	Medium	✓

In the Summit Blue analyses, gross ratepayer impact estimates are based on the total ratepayer expenditures associated with each option. These expenditure estimates do not account for the associated ratepayer benefits that accrue in the form of avoided energy, capacity, transmission and distribution costs produced by the solar resource.

Based on Summit Blue's research and feedback from stakeholders, minimizing regulatory risk emerged as one of the key criteria for the solar financing transition options. The OCE considered this in developing the initial straw proposal and in further refinements and updates of that proposal. Developers and project financiers will be less likely to invest in projects where there is a high degree of uncertainty in the cash flow, i.e., the incentive stream, resulting from possible changes to the program structure and rules, including changes in the current infrastructure. Current rules provide for a review of the ACP and SACP set by Board Order, at least once per year. In the January 19th Order, the Board directed Staff to develop an alternative which will allow for longer-range planning. In response, Staff has proposed placing a multi-year schedule of these payments into the rules to provide a level of certainty in future equal to the certainty provided by the RPS. The Board must also take into account the need for any system developed to appropriately share risk among all the market participants: the owner, the developer, the financier and the ratepayers.

Since the SREC-Only model (no. 2 in Table 1 above) initially modeled by Summit Blue puts all of the risk on the project developer, this model is assigned a high risk premium by investors, driving up the incentive costs under this model. The proposed Auction Model (no. 5), due to the five year contract length, will create the need for very high SREC values as developers strive to meet their project returns in the five year period. In addition, there is no working example of a renewable energy credit auction. The infrastructure needed to enable the proposed auction model would need to be

¹⁰ Table 1 appears in Staff's August 2, 2007 Discussion Paper.

developed in its entirety by the BPU and within New Jersey. It should be noted that Summit Blue did not model the 15 year Auction Model proposed by Rate Counsel in its July 23, 2007 Reply Comments since the proposal was submitted after the analysis had been completed. However, while the longer contract term might mitigate the impact on SREC prices, this model would still require the creation of a completely new infrastructure.

The Underwriter model (no. 3 in Table 1 above) provides a floor for the SREC price, but nonetheless leaves some uncertainty around the actual incentive value that the project developer will receive. Moreover, the way in which the underwriter model would be funded and implemented is largely unknown at this time, and it may be difficult to identify a willing and appropriate underwriter entity without significantly increasing the SBC.

The Tariff model (no. 6 in Table 1 above) meets all of the general criteria and had the lowest ratepayer impacts of the seven models evaluated in the initial Summit Blue report. Based on the Summit Blue reports and on input from stakeholders, the OCE focused its review on the Rebate/SREC and the Tariff models.

The Tariff model is attractive to project investors because it substantially reduces uncertainty in incentive payments, assuming future Boards continue the current policies. Staff believes that the Tariff model would boost developers' confidence in the market and may attract more developers to the State. However, the OCE believes that the following aspects of the Tariff model make it less attractive to New Jersey's ratepayers than the proposed Rebate/SREC model:

- The Tariff model relies on a high degree of confidence in regulatory foresight, primarily the ability to accurately set future tariff levels at the right level to support necessary market development.
- A relatively high probability of either over or under subsidizing the projects exists because the tariff is set in advance of actual market conditions.
- Staff's analysis does not indicate that the Tariff model is as effective as the Multiple Year Rebate/SREC model in driving down system costs over time, a key element of the Board's support for solar technology. The Board seeks to support the development of financially viable solar generation which will be competitive in the electric generation marketplace.
- Most states in the region are pursuing a REC-based system for supporting renewable energy development, making Staff's proposal more consistent with other regional efforts.
- Enabling legislation may be necessary to provide the Board with authority to implement such tariffs.
- The potential for resistance to a renewable generation tariff from New Jersey electric utilities exists.
- In terms of costs, the August 6, 2007 Summit Blue revised report shows that the Rebate/ SREC model in the OCE Straw Proposal, rather than being more expensive, has an equivalent cost to the Tariff and Auction models.

Maximizing investor confidence will be essential to achieving the solar RPS goals. The models originally evaluated by Summit Blue provide some elements of the necessary structure, but in Staff's view, none as originally proposed sufficiently promotes the necessary confidence. Both the Tariff and Auction models essentially guarantee a fixed level of incentive payments, but while that guarantee would tend to promote investor confidence, the significant problems discussed above outweigh this advantage.

The value of the Solar RECs created when a solar installation generates electricity provides one source of incentives for solar development. Since a supplier or provider has the option of paying the SACP or obtaining Solar RECs to comply with the solar RPS, the amount of the SACP in practice becomes the upper limit on the price of a Solar REC, effectively capping the size of the incentive associated with Solar RECs. In OCE's view, the models incorporating the SREC (nos. 1 and 2 in Table 1 above) provide a more market-based approach to setting the proper incentive level. The SREC market will fluctuate automatically without the need for regulatory intervention, based on the supply and demand required to meet the compliance requirements, resulting in incentive levels that more closely match required project economics. In addition, Staff believes that the competitiveness of a market-based approach will help drive down project costs, a benefit more difficult to achieve under the Tariff model and which could provide significant savings to ratepayers.

However, neither the Rebate/SREC (no. 1 in Table 1 above), the SREC Only (no. 2 in Table 1 above), nor the Auction Model (no. 5 in Table 1 above), provided the long-term incentive schedules necessary to build investor confidence. This deficiency meant that the ratepayer impacts of the Rebate/SRECs (no. 1 in Table 1 above) and the SREC-only (no. 2 in Table 1 above) models were not the lowest cost option in Summit Blue's April 25, 2007 Report. These models did not include a long-term SACP schedule, which would in Staff's judgment reduce the incentive risk. This reduction would result from higher investor confidence that would flow from providing the market with greater, longer-term certainty about future maximum prices of Solar RECs.

The Multiple Year SACP proposal set out in the OCE Revised-Final Straw Proposal, described in the Background and Procedural History, is an enhanced version of the Rebate/SREC (no. 1 in Table 1 above), and SREC-only (no. 2 in Table 1 above) models that Summit Blue evaluated in its reports. The Multiple Year Schedule SACP proposal includes a long-term SACP schedule that communicates to solar developers the expected long-term SACP levels in the market and thus alleviates some of the risk associated with the fluctuating price of SRECs. Increasing the SACP will make the State's solar incentive programs better able to respond quickly to changes in the market. Since the SACP effectively caps the price of Solar RECs, increasing the SACP will enable the price of Solar RECs to fluctuate within a wider range. As a result, if insufficient Solar RECs are being produced to meet demand as the solar RPS increases, the market will be better able to increase the price of Solar RECs to reflect the imbalance between supply and demand. In contrast, the ability to adjust rebates to respond to market changes is limited by the funds available for rebates, the time needed to determine the needed change, the accuracy of that determination, the time needed for approval of the change, and other factors. Similarly, if there is an oversupply of Solar RECs in the future, market forces are likely to lower Solar REC

prices more promptly and more accurately than administrative action to decrease rebate levels; the market response will help to keep incentive levels close to the minimum needed to support achievement of the RPS. Allowing market forces to better adjust incentive levels also reduces the administrative burdens and transaction costs that would be incurred if it were necessary for the State to adjust rebate levels.

The Revised-Final Straw Proposal also improves upon the Rebate/SREC (no. 1 in Table 1 above) and the SREC-only (no. 2 in Table 1 above) models evaluated in the Summit Blue reports by limiting rebates to projects with less than 10 kW of capacity and phasing them out by 2012. The Multiple Year SACP financing model also provides a degree of securitization that many stakeholders from the solar industry feel is sufficient to move projects forward.

The OCE believes that the proposed Multi-Year SACP-rebate model is a simple, easy to understand system with low administrative and transaction costs. The program's infrastructure is already in place, which will make for a smoother transition from the current system to this new model. With the Multiple Year SACP Schedule, ratepayer costs per kW of installed solar should decrease over time. The OCE believes this is the most fiscally prudent option at this time. Since the Multi-Year SACP/rebate model builds upon the existing infrastructure, it will help facilitate a sustained and orderly market development. The 8-year rolling SACP schedule and 4-year rebate schedule should help build investor confidence while still allowing the market to grow rapidly enough to meet the aggressive RPS goals.

An incentive delivery system providing both production-based rebates, in which dollars received are linked to the system's generation, and SRECs will encourage technical and economic efficiency in both the system design and in the financial structures to make the project economics attractive for customers and help facilitate a self-sustaining market. To the extent that the incentive is provided through the sale of the SRECs, the program is designed to adapt to changing market conditions. In addition, OCE notes that its proposal does not require a long preparation period as do some alternatives.

Staff also notes that building upon the existing incentive structure will also help to reduce the transaction costs of market participants. The current SREC trading system has been built to ensure a transparent and auditable process. Neither the original nor the revised OCE straw proposal requires complex ownership structures or contractual arrangements in order for projects to take advantage of incentives, and it would be flexible in nature to enable future innovations to take effect.

The Summit Blue analysis indicates that the ratepayer impacts for system sizes larger than 50 kW across the various models are essentially equivalent within a variance of plus or minus one standard deviation. Given that parity in ratepayer costs, there is no reason to move away from the current SREC based system with all the advantages of an existing infrastructure. The compatibility of this system with the REC trading and financing platforms developed or being developed by states in the region, and included in the national RPS models under consideration in pending federal energy legislation, also weighs in favor of this model

In Staff's view there are significant drawbacks to Rate Counsel's proposed auctioning of SRECs as a means to reduce the cost of the program. First, there are no working examples of a renewable energy auction in the country or the world. There are examples of energy auctions but no working REC auctions, and current energy auctions only go out three years. This new infrastructure would need to be developed within the BPU and within the State. Staff estimates that it would take at minimum eighteen months to establish and develop the infrastructure to run the fifteen-year auction. In addition, it is unclear which entities would enter into fifteen-year contracts based on auction setting prices and how this process would function. This could cause higher regulatory and financial risk in the market. In its March 15th Report, Summit Blue also opined that the Auction model suffers from several weaknesses. The annual auction limits dynamic market changes throughout the year; large players may dominate the auction, resulting in prices too low for others; the auctions would be administratively burdensome; and, as noted, the Board would need to create an auction mechanism.

With respect to Rate Counsel's argument that the OCE proposal creates regulatory risk that will increase costs to ratepayers for the delivery of solar energy required under the RPS, and that this risk will be reflected in premiums through higher SREC prices, the OCE recognizes that an auction essentially guarantees investors a certain level of incentive. However, OCE believes that the other benefits of the Revised-Final Straw Proposal, discussed above, provide more significant advantages than this guarantee without the aforementioned disadvantages of the Auction model.

Although Rate Counsel asserts that a serious risk exists that the multiple year schedule laid out in the Revised-Final Straw will not enable the State to meet the RPS requirements, Staff disagrees. Rate Counsel argues that this risk places an increased regulatory liability on ratepayers that could result in significant rate shock and loss of rate continuity if the EDCs must pay the SACP. The majority of stakeholders supported OCE's proposal, which OCE believes, on the basis of the analysis laid out below, that this proposal fairly balances the objectives of providing sufficient incentives for the construction of capacity to meet the RPS goals and of minimizing ratepayer costs. With the establishment of safety valves and the monetary and capacity caps described below, and whatever additional safety valves may be developed in the rulemaking discussed below, Staff believes that the proposal will prevent the type of rate shock feared by Rate Counsel. OCE's view seems to be supported by the level of interest that developed in the SREC-only pilot over the summer. A significant number of projects, with over 100 kW of capacity, have registered for the pilot program, the majority after the Board indicated that it would be moving to the multi-year SACP model.

Nor is Staff persuaded by Rate Counsel's assertion that the OCE proposal produces an inefficient program design that rests too heavily on administratively determined prices and micro-regulation of solar installations and not market forces. On the contrary, Staff believes that in comparison with the other models discussed, its proposal relies more heavily on market forces rather than regulatory actions to set prices and meet the RPS goals. Once the Board sets the SACP, this model permits the market to determine the price for SRECs and how many systems are built.

Staff notes that in contrast, the Auction model would set a price that is fixed for one year and would not adjust in response to changes in the market place that occur during that year. It would require the creation of an administratively burdensome auction with the requisite regulatory oversight. The market discipline created by the SREC model, on the other hand, will result in lower system costs over the long-term by creating competitive pressures in the market place. Staff believes that this characteristic of the Straw Proposal should result in lower costs to ratepayers than the other models.

The majority of the stakeholders supported OCE's proposed financial model. One of the major criticisms of the model as presented in the May 25, 2007 Straw Proposal was that it could result in significant increases in the costs of electricity. The Revised-Final Straw Proposal addressed this issue. As further discussed below, the revised proposal includes a rate cap mechanism to avoid shock to consumers and to prevent New Jersey businesses from being placed at a competitive disadvantage due to high electric costs.

Recommendation 2: OCE recommends that the Board adopt the 8 Year SACP schedule set out in Table 6 below and a 15-year qualification life.

The following describes the analysis that the OCE staff used to come up with the SACP schedule below and the 15-year Qualification Life. As stated in the April 25, 2007 draft Summit Blue report, "If New Jersey investors are to accept the level of risk offered by the New Jersey solar markets, they must see an acceptable level of return on investment. This requirement speaks to a variety of policy decisions, ranging from the structure of the incentive program itself, to the setting of SACP levels." There are three major factors that will impact the overall cost and annual rate impacts associated with implementation of the OCE proposed financial model: the SREC qualification life; the initial SACP value, and the annual rate of decrease for the 8-year SACP schedule. These are discussed individually, followed by Staff's recommendation on these three factors.

a. Qualification Life

The SREC qualification life is the number of years a system can create SRECs. Once the SREC qualification life is reached the facility will no longer be eligible to generate SRECs for New Jersey's Class I RPS market, but will be eligible to generate Class I RECs that can be traded in the Class I market or the voluntary market. The OCE's initial Straw Proposal specified a qualification life for new systems of ten years for less than 10 kW private system, eight years for greater than 10 kW private systems and ten years for greater than 10 kW Public systems.

As discussed above, some stakeholders felt that the qualification life should not be limited and that as long as the system is generating electricity, this electricity should be able to receive the current SREC market price. Others felt that if the Board believed that it needed to limit the SREC qualification life, then the SACP and SREC levels proposed were insufficient to generate needed returns and further, that setting multiple qualification life levels for differently sized projects would create confusion in the SREC market place.

The determination of the appropriate qualification life of the eligible facility depends in part on what is determined to be the fair internal rate of return for a project.¹¹ The IRR is a discount rate that results in a net present value of zero for a series of cash flows. A target IRR is selected to balance the necessary development of solar systems to meet the RPS with appropriate management of the cost of incentives. At a target IRR of 12 %, on the basis of Summit Blue's analysis, the negative cash flow represented by the initial capital investment for a solar installation, along with the positive cash flows from revenues and incentives over a six-year period, together have a net present value of zero. In simpler terms, the 12% target IRR translates into a 6-year payback period for the investment in the solar electric generation system.

As is shown in Figure 1 and described in the Summit Blue analysis, due to the time value of money, longer qualification lives have decreasing impacts on the project IRR.

Figure 1. Comparison of SREC Qualification Lives and IRR by Project Type¹²

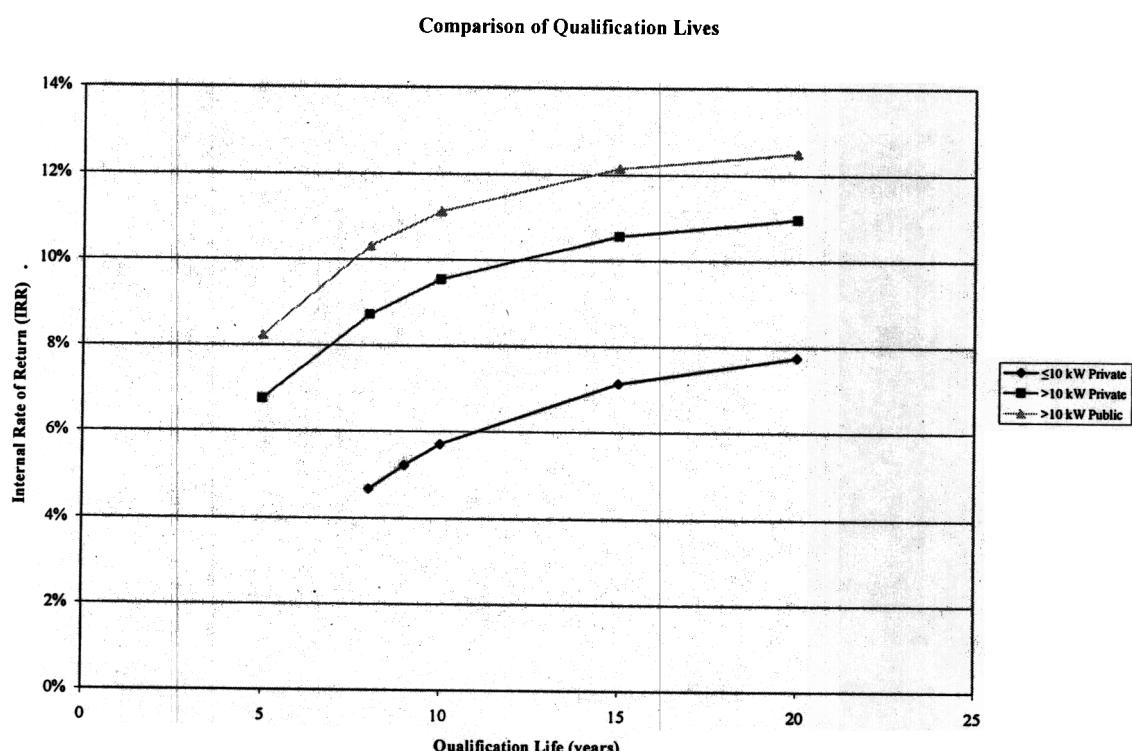


Table 2 below shows the impact on IRR of changing the SREC qualification life given a fixed SREC level (\$525) and assuming the financial model proposed by the OCE, which is based upon a multiple year schedule of SACP levels. The model was run for typical project sizes in three market segments: less than or equal to 10 kW, greater than 10 kW

¹¹ Both the IRR and the SREC level are targets used by Staff in its analysis. As such, they are based on current industry market conditions. If the Board were to adopt Staff's recommendations, the Board would not set these numbers; it would set the SACP level.

¹² The data summarized in Figure 1 was developed by Summit Blue and appears in Staff's August 2, 2007 Discussion Paper.

private, and greater than 10 kW public. In Staff's view, based upon the negative and positive cash flows, Table 2 documents three conclusions:

- Small projects (less than 10 kW) need a rebate to achieve target IRRs
- Large projects (greater than 50 kW) need a target IRR of 11+% to have a positive cash flow
- Larger projects (greater than 100 kW) have better economics.

Table 2: Comparison of Qualification Life by Project Type¹³

Project Type	Size (kW)	Qual. Life	SREC Yr 1	1 st Year Rebate (\$/W)	Project Level			
					IRR	Break Even Yr	Cum 20y Cash flow	NPV 20y @ 10%
≤10 kW Private	6.53	8	\$525	3.00	5%	11	\$20,583	(\$5,695.02)
≤10 kW Private	6.53	9	\$525	3.00	5%	10	\$21,870	(\$5,198.65)
≤10 kW Private	6.53	10	\$525	3.00	6%	10	\$23,123	(\$4,759.58)
≤10 kW Private	6.53	15	\$525	3.00	7%	10	\$27,935	(\$3,474.24)
≤10 kW Private	6.53	20	\$525	3.00	8%	10	\$32,132	(\$2,885.46)
<hr/>								
>10 kW Private	51.30	5	\$525	3.00	7%	9	\$177,273	(\$23,075.23)
>10 kW Private	51.30	8	\$525	3.00	9%	7	\$206,232	(\$9,438.22)
>10 kW Private	51.30	10	\$525	3.00	10%	7	\$222,435	(\$3,471.47)
>10 kW Private	51.30	15	\$525	3.00	11%	7	\$253,129	\$4,727.19
>10 kW Private	51.30	20	\$525	3.00	11%	7	\$279,899	\$8,482.75
<hr/>								
>10 kW Public	110.03	5	\$525	3.00	8%	7	\$404,767	(\$24,695.36)
>10 kW Public	110.03	8	\$525	3.00	10%	6	\$466,877	\$4,552.57
>10 kW Public	110.03	10	\$525	3.00	11%	6	\$501,628	\$17,349.74
>10 kW Public	110.03	15	\$525	3.00	12%	6	\$567,459	\$34,933.81
>10 kW Public	110.03	20	\$525	3.00	13%	6	\$624,875	\$42,988.52

As set forth in Table 3 below, developed in the Summit Blue analysis, the longer the QL, the larger the total cost to ratepayers – the shorter the QL, the smaller the total cost. However, the longer QL results in lower rate impacts, since the costs are recovered over a longer period of time. The situation is analogous in some respects to a home mortgage loan; the same borrower obtaining a loan from the same mortgage lender will face higher monthly payments on a 15-year mortgage than a 30-year mortgage, but the total cost of the 30-year mortgage will be significantly higher. Similarly, the shorter qualification life eventually reduces the supply of Solar RECs and can therefore be expected to increase their price eventually; however, the longer qualification life has higher total costs because more solar facilities earn more Solar RECs over a longer period of time.

¹³ The figures in Table 2 were developed by Summit Blue and appear in Staff's August 2, 2007 Discussion Paper. Figures in black represent positive cash flows; figures in red represent negative cash flows.

Table 3. Comparison of Qualification Life by RPI¹⁴

SACP Structure	Qual. Life	SREC Yr 1	RPS Level through 2021	
			Total RPI PV	RPI Increase
OCE Straw	8	\$525.00	\$2,386,708,192	
OCE Straw	9	\$525.00	\$2,527,388,371	6%
OCE Straw	10	\$525.00	\$2,652,454,120	5%
OCE Straw	15	\$525.00	\$3,092,198,592	17%
OCE Straw	20	\$525.00	\$3,262,119,903	5%

Table 4 and Figure 2 below document Summit Blue's evaluation of the relationship between the target IRR, the QL and the initial SREC value which best balance the solar industry's need for a reasonable rate of return with the Board's need to minimize the impact on ratepayers. As can be seen in Table 2, Staff believes that an IRR of 6% or less produces a negative cash flow, while an IRR of 12% or more produces a positive cash flow. Staff believes that these tables document the following:

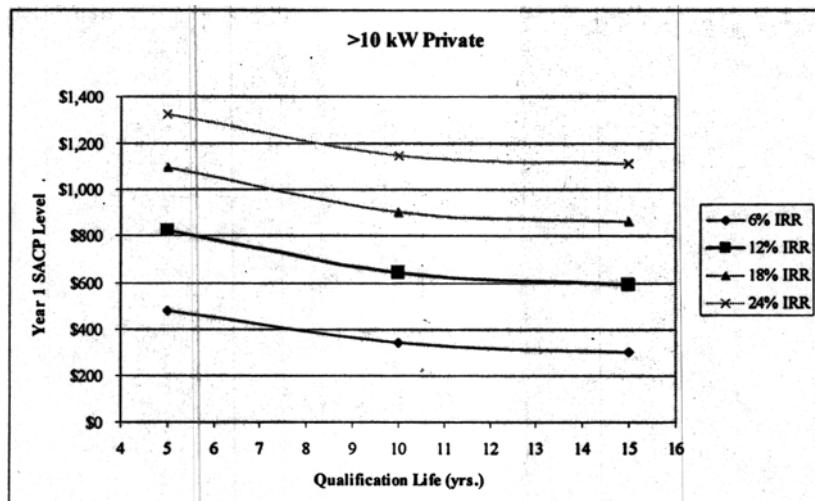
- o Larger projects do well at 12% IRR and greater than 10 year QL
- o QL beyond 15 years, due to the impacts of discounting, does not reduce the required SREC level
- o Certain balances between the QL, IRR, and ratepayer impact (RPI) must be struck in order to set a reasonable SACP

¹⁴ The figures in Table 3 were developed by Summit Blue and appear in Staff's August 2, 2007 Discussion Paper.

Table 4: Optimal Year 1 SACP by Qualification Life and IRR (>10 kW Private)¹⁵

Project Type	Qual. Life	SREC	IRR	Pay Back	Project NPV	RPI PV
>10 kW Private	5	\$475	6%	10	(\$29,006)	\$1,675,145,314
>10 kW Private	10	\$343	6%	10	(\$31,980)	\$1,733,388,207
>10 kW Private	15	\$301	6%	10	(\$33,906)	\$1,771,822,189
<hr/>						
>10 kW Private	5	\$823	12%	5	\$12,534	\$2,901,499,206
>10 kW Private	10	\$642	12%	6	\$14,858	\$3,243,368,114
>10 kW Private	15	\$592	12%	6	\$16,308	\$3,487,983,465
<hr/>						
>10 kW Private	5	\$1,096	18%	4	\$45,113	\$3,863,287,581
>10 kW Private	10	\$906	18%	4	\$56,243	\$4,577,537,176
>10 kW Private	15	\$862	18%	4	\$62,853	\$5,078,758,661
<hr/>						
>10 kW Private	5	\$1,329	24%	3	\$72,868	\$4,682,651,957
>10 kW Private	10	\$1,147	24%	4	\$94,080	\$5,797,309,504
>10 kW Private	15	\$1,113	24%	4	\$106,055	\$6,555,286,520

Figure 2: Year 1 SACP by Qualification Life and IRR (>10 kW Private)¹⁶



¹⁵ The figures in Table 4 were developed by Summit Blue and appear in Staff's August 2, 2007 Discussion Paper.

¹⁶ The figures in Figure 2 were developed by Summit Blue and appear in Staff's August 2, 2007 Discussion Paper.

b. Initial SACP Level

OCE recommends an initial SACP level for the multi-year SACP schedule that is developed on the basis of the minimum target IRR necessary to attract the level of private investment needed to meet the Board's RPS goals. Most of the comments suggested that the Board should set the SACP at a level that would achieve a 5 to 8 year payback for private greater than 10 kW projects. Summit Blue's analysis, as documented by Table 4, shows that a target IRR of 12% results in satisfying this goal for this class of project. Based on the above, Staff determined that a qualification life longer than 15 years did not significantly increase the return on investment and that projects between 50 kW and 100 kW required analysis based upon a target IRR in excess of 11% in order to be economically viable. Staff recommends that the Board set an SREC qualification life of 15 years. In order to recommend this Qualification Life and based on the analysis performed by Summit Blue, Staff targeted an IRR of 12% for greater than 10 kW private projects, which produces a target SREC level of \$611 in Reporting Year 2009.

Assumptions:

Model: Competitive, Multiple Year SACP with Rebates for Smaller Projects

Target IRR: 12%

Qualification Life: 15 Years

Annual percentage decrease in SREC/SACP Levels: 3%

Table 5: SREC Pricing Levels Required to Achieve Target IRR¹⁷

Energy Year	2009	2010	2011	2012	2013	2014	2015	2016
SREC	\$611	\$593	\$575	\$558	\$541	\$525	\$509	\$494

c. Annual Rate of Decrease of SACP

Based on Summit Blue's analysis of the data gathered by the CORE program, presented in its August 22, 2007 report, the OCE determined that an annual 3% decrease in solar system cost more closely represents the New Jersey market than the USDOE national average. This decrease would continue to narrow the gap between the costs of installing and operating solar electric generation and the costs of installing and operating conventional electric generation. Actual market prices may decline more than 3% annually with improvements in technology.

The importance of this decrease in cost is critical to the continued success of the solar industry in New Jersey. As noted by the Board when it adopted the RPS rules in April 2006, the utilization of a mechanism linking actual market costs to the cost of the Board's RPS program was worthy of further review and analysis. The Board noted that "*Any proposed adjustment mechanism should address potential market advances that exceed the percentage requirements as well as potential market deficiencies. The*

¹⁷ The numbers in Table 5 were developed by Summit Blue and appear in the Final Revised Straw. The SREC levels are used for modeling purposes and are not set by the Board.

circuit breaker will be discussed more thoroughly during the upcoming renewable energy committee meetings. Should the Board find the circuit breaker concept to be one which is necessary to keep the RPS from damaging ratepayers, it is likely the Board would consider it."

The discussions that took place as part of this proceeding have led OCE to believe that a circuit breaker or safety valve needs to be developed. Some in the solar industry believe that the annual decrease in market prices will continue to be more than 3% and that cost parity with other forms of electricity generation could come as early as 2015. If this proves to be the case, future Boards may consider the implications of this development at that time. The OCE developed the SACP schedule based a projection that market prices will decline by 3% per annum. It is impossible to know with certainty either what the actual decrease in solar installation cost will be in the future or the future cost of electricity from traditional sources. Changes become more difficult to predict when taking into consideration possible changes resulting from federal legislation, including changes which may address greenhouse gas emissions, and from new energy products. Therefore, Staff recommends that it is necessary and appropriate for the Board to monitor these costs and periodically evaluate the impact of the solar RPS on ratepayers. Specific OCE recommendations regarding monitoring are included in the long term monitoring proposals contained in Recommendation 8 below.

OCE further recommends that in order to assist in providing security for this financing system, a fixed 8-year schedule of SACP levels should be set, with an additional SACP level for the eighth year determined and added annually. Staff recommends that any changes to the Board approved SACP schedule should be made only in response to significant changes such as changes in state or federal law or in the market place or to protect ratepayers and should not apply to projects that have made investment decisions based upon earlier schedules.

OCE further recommends that SACP levels should be set above the required target SREC levels so that electric suppliers have an incentive to purchase SRECs instead of paying SACPs. SRECs have been trading in the range of 50% to 75% of the current \$300 SACP level in the past two years. The Final Straw Proposal recommended a \$100 differential between the SREC value and the SACP. OCE notes that as the market becomes more mature, the market will set SREC prices more independently of the SACP; but that the SACP levels serve as a known cap on the potential costs to suppliers of meeting the Board's RPS requirements.

Based on the above, OCE's Revised-Final Straw Proposal included the proposed 8-Year SACP Schedule set out in Table 6 below:

OCE proposes setting the SACP level \$100 above the targeted SREC levels in Table 5 above. This results in the following 8 Year SACP schedule:

Table 6: Proposed 8 Year SACP Schedule¹⁸

Energy Year	2009	2010	2011	2012	2013	2014	2015	2016
SACP	\$711	\$693	\$675	\$658	\$641	\$625	\$609	\$594

Several entities commented that they would have preferred a longer SREC qualification life, a higher assumed target IRR and/or a higher differential between the SREC price and the SACP level. Some argued for higher SACP levels and some argued for lower levels. OCE believes the proposed SACP schedule, and the assumptions utilized to develop the schedule, represent a reasonable balance of the various positions put forth in this proceeding related to these issues. In Staff's opinion, the proposed SACP levels set out in Table 6 above represent reasonable levels of SACP that will minimize ratepayer impacts while allowing sufficient incentives to achieve the Board's RPS goals. OCE, therefore, recommends that the Board adopt the 8-Year SACP schedule set out in Table 6 above for inclusion in rules as discussed below.

Summit Blue estimated the ratepayer impacts of OCE's Revised-Final Straw Proposal in its August 22, 2007 report. The total cost of SRECs can be estimated by multiplying the number of SRECs needed to meet the Board's annual RPS goals by the SREC price forecast for that year. The impact on rates on a percentage basis can be estimated by dividing the total cost of SRECs by the assumed electric revenues in any given year. SREC costs and rate impacts increase gradually until reaching a peak of \$904 million and 4.76% in year 2021.

Table 7 below shows the ratepayer impacts of OCE's Revised-Final Straw Proposal:

Table 7: Ratepayer Impacts of OCE Revised Straw Proposal¹⁹

Energy Year	2009	2013	2017	2021	2023	Total cost 2009 through 2035 (NPV)
Annual SREC Cost of Straw	\$42,239	\$210,235	\$490,871	\$904,651	\$864,372	\$3,562,849
Estimated Total Retail Sales	\$10,895,247	\$13,113,020	\$15,782,924	\$18,997,269	\$20,842,517	\$154,644,800
SREC cost of Straw as a % of Total Retail sales	0.39%	1.60%	3.11%	4.76%	4.15%	2.30%

¹⁸ The numbers in Table 6 were developed by Summit Blue and appear in Staff's August 24, 2007 Revised-Final Straw.

¹⁹ The numbers in Table 7 were developed by Summit Blue and appear in Staff's August 24, 2007 Revised-Final Straw.

As reflected in Table 7, after year 2021, SREC costs and rate impacts begin to decline since the RPS requirement does not increase after 2021 unless the Board adopts additional percentages in rules. The above estimated costs are, of course, subject to the "safety valve" mechanism, described in more detail below, which would cap program costs should they exceed 2% of total electricity costs. Even when utilizing the more conservative 3% figure, the safety valve discussed below would not be triggered until 2017. If costs continue to decline at the historical rate, the safety valve will be unnecessary. OCE notes that as discussed in previous analyses prepared by the Center for Energy Economic and Environmental Policy (CEEEP), notably the December 2004 report referenced by Summit Blue in its August 6, 2007 report, installation of solar systems could reduce system peaks and the wholesale price of electricity, thus offsetting some of the rate increases shown above. In addition, as noted by CEEEP in its RPS report, solar and other renewables can reduce the environmental cost of electricity. As discussed further below, OCE recommends that the Board impose rate caps as a safety valve mechanism to ensure that the program does not exceed pre-determined rate impact levels, which have been calculated on the ratio of total incentive costs to total electric distribution ratios.

Recommendation 3: OCE recommends that the Board propose modifications to the RPS regulations to allow for a two year SREC trading life. Proposed regulations should be presented to the Board on or about May 1, 2008 with final adoption occurring on or before March 1, 2009.

SREC Vintage

The SREC vintage is the period during which an SREC may be sold. A one year vintage, which is the period currently included in the RPS rules, means that a market participant must sell the SREC associated with the solar generation in a given year within three months of the close of the Reporting Year. If the SREC related to the solar generation for a year is not sold by the end of this "true-up" period, the value of the SREC is lost for New Jersey's RPS purposes, and it cannot be sold in a future year. The threat of those solar RECs becoming "stranded" (that is, expiring before they can be used) can create extreme time pressure for holders of solar RECs to sell any in excess of what will be needed for immediate compliance. That time pressure can create additional volatility in the solar REC market, undermining the ability of market participants to predict future prices.

Comments received during the hearings on the OCE straw proposal indicated that some parties would like to have a more flexible SREC vintage, allowing SRECs that are not sold in a given year to be carried forward to the following Reporting Year. One party did object to increasing the vintage, but Staff believes that the two-year vintage is preferable because it provides greater flexibility to market participants, and helps to avoid "stranded" SRECs. Other states in the region have also adopted a vintage of greater than one year.

OCE recommends that the Board modify its RPS regulations to allow for a two year SREC trading life. The majority of the comments supported this position.

Recommendation 4: OCE recommends that the Board consider the proposed rebate levels and block sizes set out in Table 8 below as part of the ongoing Comprehensive Resource Analysis (CRA) for Energy Efficiency and Renewable Energy proceeding. OCE will further recommend, as part of the Comprehensive Resource Analysis, that the Board establish the funding level for these rebates at \$53.25 million for the period 2009-2012 so that rebate levels are part of the consideration of any rate caps to be imposed.

The OCE straw proposal and many of the subsequent written and oral comments recommend the continuation of rebates (with modifications as discussed below) as an important strategy for sustaining market development for small scale (primarily residential) systems. While NJLEUC expressed reservations about continuing rebates in tandem with funding the other components of the Staff proposal, Staff found the arguments in favor of continuation persuasive. The rationale for continuing to provide rebate support includes the following:

- Smaller projects have higher installed costs (~\$1,000 kW as cited in the August 2, 2007 Summit Blue Report) due to factors such as higher transaction costs, fewer economies of scale, and lower federal tax credits;
- The small project market is responsible for approximately 37% of total New Jersey retail electric sales, and is a significant contributor to the SBC and other ratepayer funds, such as payments to Third Party Suppliers, used to support renewable energy development;
- The small project market often needs the immediate validation, motivation, and the market signal that is provided by a rebate payment (even at reduced levels) and is less likely to invest if it must depend upon a stream of future payments from an unfamiliar commodity market, and
- The small project market has been a foundation for the development of New Jersey solar markets with many businesses focused on serving the residential market niche, and the active support and participation from thousands of residential customers.

For these reasons, as well as the policy goal of furthering a diversity of project types, the OCE, Summit Blue, and industry stakeholders all recommended the continuation of rebates for small scale systems even as these systems are afforded the opportunity to participate in the SREC market. Clean Energy Advocates proposed that small systems participate via a fifteen-year tariff rather than receive rebates and NJ-NAIOP advocated the use of performance-based incentives rather than rebates.

Taking all of these factors into consideration, OCE proposed the following rebate levels and block sizes in its May 25, 2007 Straw Proposal. These rebates were proposed to apply to systems of less than 10 kW.

Table 8: OCE Proposed Rebate Levels²⁰

Years	Rebates \$/W	Rebate Blocks (MW)
2009	3.00	7
2010	2.25	6
2011	1.50	8
2012	0.75	9
	Total MW	30
	Total Rebate RPI	\$ 53,250,000

OCE recommended that the Board set the funding for the 2009-2012 period at \$53.25 million in the Board's ongoing CRA proceeding (Docket No. EO07030203), in which the Board, pursuant to N.J.S.A. 48:3-60(a)(3), will set energy efficiency and renewable energy funding levels for the years 2009 through 2012.

OCE believes that any cost cap proposal considered by the Board must take into consideration the total level of incentives including both SRECs and rebates. Therefore, OCE will recommend that the Board set the funding for the 2009-2012 period at the \$53.25 million evaluated as part of this proceeding and that that level be taken into consideration in setting the cap. In the event that the Board sets incentive funding at a different level, OCE notes that it will be necessary to adjust the cap accordingly.

Recommendation 5: OCE recommends that the SREC qualification life for legacy projects be 15 years but that the QL start for these projects in the Reporting Year in which the project became operational.

The recommendation to raise the SACP levels will, if implemented, likely raise the market value for SRECs. There is some concern that providing legacy systems (those installed prior to the market transition) with the higher SREC values will create an undue profit for these projects. In order to reduce this potential outcome, the OCE initially proposed shortening the SREC qualification life for legacy projects relative to the post-transition projects' qualification lives.

As noted by several commenters, changing the rules for legacy projects mid-stream will highlight the regulatory risk in the New Jersey market and will cause project developers to increase their risk premium on any future incentive streams. Changing the rules for legacy projects may cost more in terms of market uncertainty than it saves in windfall profits.

Concerns have also been raised about the complexity and possible inequity of establishing shorter qualification lives for legacy projects. Staff notes that the cumulative costs to the ratepayers of the additional profit for legacy projects are small relative to cumulative program costs. If legacy projects were to be granted qualification

²⁰ The numbers in Table 8 were developed by Summit Blue and appear in Staff's August 2, 2007 Discussion Paper.

lives identical to those allowed non-legacy projects, the IRR for a less than 10 kW private system would increase from 5% to about 10% and the time in which the project would pay for itself would decrease on average from twelve years to about seven years. At the program level, granting the longer 15 year qualification life to the legacy projects would increase ratepayer costs by approximately \$15.5 million. In comparison, the total estimated ratepayer costs in the original straw proposal were estimated to be about \$2.6 billion. Therefore, the “windfall” cost of legacy systems with the same QL as non-legacy systems is estimated to be, at most, 0.6% of the total estimated ratepayer expenditures for the straw proposal.

OCE has considered arguments that its initial proposal to limit qualification life for legacy systems will create additional regulatory risk for all future projects and that this risk more than outweighs any potential savings. Therefore, after weighing the benefits against the costs on this issue, OCE recommends that legacy systems be given the same 15 QL as other systems but that the QL start in the Reporting Year in which the project became operational. OCE believes that in this manner, the economic benefit to rebated projects is maintained, while minimizing the additional profit.

Recommendation 6: OCE recommends that the Board direct the OCE to solicit input from stakeholders regarding the design of a specific community based solar program and to propose the appropriate amendments in the RPS and Net Metering rulemaking.

OCE's straw proposal recommended a community based solar program that allows residents or small businesses to “buy” into a centrally located project as opposed to individual home installations as a means of reducing costs while still allowing small customers to participate in the solar marketplace. This option may remove the need for rebates for some small customers. OCE recommended that the RPS and Net Metering and Interconnection rules be amended to remove the 2 MW cap on eligibility and confirm that all solar systems connected to a New Jersey utility system be eligible to generate SRECs. The recommended amendments would enable community based solar projects to participate in the SREC market. The majority of the stakeholders supported OCE's proposal for a community based solar program. No stakeholders objected to the proposal. Staff recommends that the proposal be adopted in an appropriate future proceeding and that the above-referenced rulemaking proceeding be initiated.

Recommendation 7: OCE recommends that the SREC Pilot program be extended until such time as a rulemaking incorporating the changes recommended in Staff's proposal can be completed and the results of that rulemaking become a part of the Board's RPS and Net Metering program.

OCE's straw proposal included a recommendation for extending or expanding the Phase I pilot, which affords solar installers the opportunity to obtain a CORE inspection without applying for a rebate, to include the provisions to implement the solar transition recommended by OCE to assist in developing data and information regarding securitization. As noted above, Sun Farm Network and the Solar Alliance supported OCE's proposal, stating that an extension of the pilot is necessary to keep new projects

moving forward. NJSEIA opposes the extension of the pilot until other market issues are resolved.

OCE concurs with Sun Farm Network and the Solar Alliance that extension of the pilot is necessary to continue the development of new projects. Certain projects have been placed in one of three queues within the Program awaiting rebate commitments, sometimes for over one year. Given the impact this has had on new project development, OCE believes it is critical to the achievement of RPS goals and to the continued viability of the solar businesses in the State that every effort be made to provide opportunities for the development of new projects. Therefore, OCE recommends that the SREC Pilot program be extended until such time as the changes recommended by Staff have been the subject of a rulemaking process.

Recommendation 8: OCE recommends that the Board develop regulations with continued stakeholder input to a) direct the OCE to provide the Board with recommendations on how to provide for a “safety valve” and b) monitor the costs of solar installations relative to the total retail market electricity costs.

Summit Blue has estimated, in its August 22, 2007 Report, that the total cost of Staff's proposal, through 2035, at a net present value of \$3.56 billion dollars. This number reflects the 15-year qualification life of projects approved to generate SRECs in 2021 and is the sum of the estimated annual costs of the SRECs necessary to meet the yearly RPS requirements for 2009 through 2036 at the net present value.

The stakeholders presented a variety of comments on addressing program costs. Sun Farm Network stated that it believed the goal should be for solar costs to achieve grid parity by 2021. Sun Farm recommended that the Board track progress by monitoring system costs relative to a reasonable cost decline trajectory, with a goal of reaching \$3 per watt without a subsidy. MSEIA stated that it thought the OCE should share data on key indicators, especially upon projected SREC production. Clean Energy Advocates argued that the objective should be to achieve grid parity by 2015, and that the Board should adjust incentives as needed to achieve that objective. The varied comments have convinced OCE that monitoring of solar installation costs needs to be further specified in the RPS regulations, along with a “safety valve” to control the overall costs of meeting the solar RPS.

a) Safety Valve

OCE recommended in its Revised-Final Straw Proposal that the Board should adopt in concept two caps on the program: a cap on the total cost of solar incentives, including but not limited to the cost of SRECs, and a cap on the amount of solar electric generation capacity that would need to be installed to meet the solar RPS.

Cost Cap

The cost of solar incentives includes three components:

Financial assistance paid from the revenues of the societal benefits charge collected under N.J.S.A. 48:3-60 for solar electric generation;

The value of Solar RECs needed to comply with the solar RPS; and

The amount paid under the SACP.

OCE recommended in its Revised-Final Straw Proposal that the Board adopt in concept the idea of capping ratepayer subsidies for solar installations and monitoring progress towards achieving the goal of a sustainable solar industry that does not require subsidies. OCE recommends that a capping mechanism on the cost of SRECs be triggered if estimated annual solar incentive costs exceed 2% of estimated annual retail electricity costs. If this occurs, then the percentage of solar electric generation needed to meet the solar RPS should be frozen beginning in the following reporting year. The freeze would remain in effect until costs drop below the 2% threshold in order to protect ratepayers from bearing undue costs.

Megawatt Cap

As part of the State's development of an Energy Master Plan, Governor Corzine has set a goal of reducing energy use 20% below business-as-usual levels by 2020. The amount of solar capacity installed under the solar RPS is tied to the amount of electricity used in the State. If electricity usage is less than has been projected in the Summit Blue modeling, less capacity will be needed and there will be a corresponding reduction in ratepayer impact. New Jersey has been developing an Energy Master Plan over the last year which includes major emphasis on energy efficiency. Specific proposals are being developed that are anticipated to be included in the final EMP and which could reduce projected electricity usage in 2020 by around 20%. Staff has indicated that to support the EMP, the solar RPS could be modified to include a capacity cap as well as a percentage requirement. The capacity cap could be set at the level of anticipated electricity usage that would occur if the energy efficiency strategies in the EMP were successful. This would provide an additional control on the total cost to ratepayers of meeting the solar RPS. With projected business-as-usual annual electricity consumption of about 100,000 gigawatt-hours in 2020, a 20% reduction would be about 80,000 gigawatt-hours.

OCE recommends that the Board set a maximum level of solar electric generating capacity needed to comply with the solar RPS, based on the 2.12% solar requirement in 2020-2021, and total annual consumption in that year of 80,000 gigawatt-hours. Assuming Summit Blue's expected annual capacity factor for a solar electric generation facility of 11.4 % (at that capacity factor, the facility annually produces 11.4% of the energy that it would have produced had it been operating at full capacity for the entire

year), it would take 1700 megawatts of solar electric generation capacity to produce 2.12% of 80,000 gigawatt-hours annually. The solar RPS would be deemed to have been achieved in any year in which 1700 megawatts of solar electric generation capacity is operating in New Jersey, and a combination of solar RECs and SACP representing 1,696,000 megawatt-hours (2.12% of 80,000 gigawatt-hours) have been used for compliance in that year.

OCE recommends that the percentage cap and the megawatt cap be considered further through a continued public stakeholder rulemaking process, with additional recommendations for a rule proposal to be provided to the Board by May 1, 2008 and a final rule adoption on or before March 1, 2009.

b) Monitoring

To ensure the success of this mechanism, the OCE proposed monitoring of installation costs and the supply of SRECs. Both the total installation/panel costs and the supply of SRECs would be included in the elements monitored. Staff recommends that a rule proposal be provided to the Board by May 1, 2008 and a final rule adoption on or before March 1, 2009. Through close and careful monitoring, the Board can maintain a proactive approach to the total impact and effectiveness of the program to ensure the effectiveness of the program without undue impacts on ratepayers.

Recommendation 9: OCE recommends that the Board initiate a proceeding to explore whether additional securitization is warranted, and if so, to provide specific recommendations regarding the methods and costs of providing such securitization. OCE recommends that the proceeding commence on or about November 1, 2007 and that the OCE be directed to report back to the Board by May 1, 2008.

OCE recommended in the Revised-Final Straw Proposal that, as part of the going-forward monitoring of the extended pilot, Staff, with stakeholder input, continue to evaluate and investigate whether and how additional securitization can help to lower ratepayer costs, as well as the cost implications of additional securitization.

Many commenters have stated that the solar market uncertainty will not be addressed without some form of securitization. The majority of the stakeholders commented that additional steps to provide securitization of SREC values are needed immediately. Rate Counsel believes that the OCE's commitment to securitization is not strong enough, that Rate Counsel's proposed auction model provides the necessary level of securitization, and that there is no need to further explore the need for additional securitization. Likewise, NJSEIA argued that securitization needs to be dealt with in this proceeding, not postponed.

OCE believes the most important outcome of this proceeding is to select the proper financial model. As discussed in detail above, OCE believes that the proposed Multi-Year SACP Schedule with Rebates Model offers a competitive, market based approach that is consistent with the approach being adopted in other states in the region and

potentially at the national level, and as explained earlier, is the model which it recommends to the Board. OCE also believes that the 8 year SACP schedule will provide a certain level of securitization that all agree is necessary to enable project financing. OCE believes the most prudent course for the Board at this juncture is to adopt the proposed financial model and commence a proceeding to determine what forms of additional securitization are available to support the proposed structure, what the costs of additional securitization are, and whether the anticipated benefits of additional securitization outweigh the expected costs. Accordingly, OCE recommends that the Board initiate a proceeding to explore whether additional securitization is warranted, and if so, to provide specific recommendations regarding the methods and costs of providing such securitization. OCE recommends that this proceeding commence on or about November 1, 2007 and that the OCE be directed to report back to the Board by May 1, 2008. If additional securitization is warranted, OCE should make an appropriate recommendation, including any required rulemaking, to be finalized by March 1, 2009.

Recommendation 10: OCE recommends that the Board direct the OCE to initiate an informal public stakeholder process and to present proposed rules revising existing RPS and Net Metering requirements to the Board by May 1, 2008 and a final rule on or before March 1, 2009.

The solar market transition policies proposed herein will require certain revisions to existing regulations, including: revisions to the procedures for setting the Solar Alternate Compliance Payment level; establishment of a multiple year SACP schedule; the length of time for which SRECs may be traded; the Qualification Life of solar facilities; the development of community-based solar systems; the percentage and capacity caps; safety valve mechanisms; the treatment of legacy projects; and such other aspects of the proposal as may be determined to require rulemaking during the course of the process. The rulemaking process will also provide an opportunity for further input from stakeholders and other interested parties. OCE recommends that the Board direct the OCE to initiate an informal public stakeholder process and to present proposed rules revising existing RPS and Net Metering requirements to the Board by May 1, 2008 and a final rule on or before March 1, 2009

DISCUSSION AND FINDINGS

The Board has reviewed the extensive record in this proceeding regarding proposed changes to the policies and regulations that guide New Jersey's solar marketplace. New Jersey has become one of the most vibrant solar marketplaces in the world, and the Board is committed to maintaining our State's position as a marketplace leader, while at the same time taking steps to control ratepayer costs. The various stakeholders who participated in this proceeding have brought considerable dedication and passion to the process of transitioning the solar market. The Board recognizes that our decision herein will significantly impact the solar marketplace in general and many of the solar businesses that have taken root in New Jersey in the past few years. The Board is concerned as well with the impact of our decision in this matter on the State's residential and low-income customers, as well as other business and industries in the

State. New Jersey's businesses must remain competitive, and controlling electric rates will help them to do so.

The significant benefits associated with the expansion of local, distributed, renewable, non-polluting sources of energy are also recognized by the Board. Prior to adopting the goal of "20% by 2020" set out in RPS regulations, the Board commissioned a study by the Center for Energy, Economic and Environmental Policy. CEEEP's analysis indicated that providing 20% of our State's electricity from renewable energy would result in minimal increases in electricity prices and could deliver other benefits that could offset some of those increased costs. Some of the benefits of solar energy include reduced emissions and the associated health benefits; reduction of emissions that contribute to global warming; reliance on local sources of energy which reduce the flow of energy dollars out of State; and a lessened need to site and build new power plants, as well as new transmission and distribution facilities. In certain high fuel price increase scenarios, in addition to the other benefits specified, the 20% renewable option could provide a significant reduction in fuel costs relative to other options. The Board is committed to achieving this goal.

To meet the RPS requirements, and specifically the specified minimum percentages of solar energy, the Board recognizes that solar installations must increase at a pace commensurate with those requirements. To date, the combination of incentives detailed above has enabled adequate growth in solar generation. However, as discussed above, this growth has come at a cost of \$4.3 million per megawatt in rebates. In recognition of the need to reduce reliance on rebates and increase the use of more cost-effective incentives, the Board initiated the process of market analysis and public stakeholder input which has led to the decisions set forth in this Decision and Order.

In evaluating the various market models developed in this process, Summit Blue, as the Board's market analyst for renewable energy, assessed the various proposed models based upon four key criteria:

- Sustained orderly development
- Ratepayer impacts
- Transaction costs; and
- Support for other policy goals, including environmental and public health

In light of the Board's policy goals in this proceeding, the Board FINDS that these are appropriate criteria for assessing the proposed models.

When assessed by these standards, Summit Blue determined that the Rebate/SREC and the Tariff models performed best. Staff's review of these options and further economic analyses by the consultant revealed that while these models had equivalent costs, the more market-based approach taken in the Rebate/SREC approach would better enable the reduction of solar technology costs and participation in the developing regional SREC trading market, while avoiding several regulatory pitfalls inherent in the Tariff approach.²¹ The same review demonstrated weaknesses in the Auction

²¹ Because of our conclusion, we need not also reach the question of whether the Tariff approach would be legally viable absent legislative amendments.

approach, whether or not it included the use of long-term contracts as proposed by Rate Counsel. The Board has made considerable efforts over the past several years to implement policies and procedures that support the development of a vibrant, sustainable renewable energy marketplace in New Jersey. Among the elements of such a marketplace is coordination with market trends in this region. As noted by Staff, several other states in the region have developed REC platforms, PJM-Environmental Information Services has developed a system for creating, tracking, trading, and retiring RECs, and recent proposed federal legislation was based on a REC platform.

Building upon the existing incentive structure will also help to reduce the transaction costs of market participants. The current SREC trading system has been built to ensure a transparent and auditable process. Neither the original nor the revised OCE straw proposal requires complex ownership structures or contractual arrangements in order for projects to take advantage of incentives, and it would be flexible in nature to enable future innovations to take effect.

Any decision to abandon the current market structure for an alternative structure such as an auction or tariff model must be based on clear and significant expected benefits. However, the Board does not find that the record in this matter demonstrates such benefits or supports wholesale changes to the existing structure. As shown in the Summit Blue analyses, all of the proposed models have advantages and disadvantages and none of the models demonstrated significant costs savings over any other.

Economic analyses and stakeholder input demonstrated, however, that the Rebate/SREC model did not provide adequate long-term securitization to allay the concerns of the financial markets upon whose investment the success of the entire market depends. Thus, in consideration of the data from the Summit Blue report and further public stakeholder feedback, Staff developed the Multiple Year SACP schedule as a mechanism to facilitate greater securitization. The record indicates that the addition of this schedule should permit the necessary level of confidence among investors. Moreover, the use of this schedule, like the Rebate/SREC model, builds upon the existing infrastructure, with all the lowered transaction and administrative costs which attend making use of an existing infrastructure. At the same time, the continuation of rebates for the smaller systems, within a defined time period, recognizes the contribution of those ratepayers to the funding of the system and their unique needs as market participants. The Board will, however, defer further consideration of rebates for smaller systems to the Board's CRA proceeding.

The Board has reviewed OCE's recommendations regarding the proposed SACP levels and the comments regarding those recommendations. Staff has considered the varying needs of the different project sizes, as well as the ratepayer impact of a range of target IRRs. The Board **FINDS** that a 12% target for the IRR reasonably balances the solar industry's needs for a return on investment that is short enough to allow for the sale of solar systems with the policy objective of minimizing the impact on rates.

Based on the above, the Board **HEREBY FINDS** that the rolling 8 Year SACP schedule and the methodology used to develop the specific schedule is reasonable and fairly balances the various interests and issues involved in this proceeding.

Accordingly, the Board hereby APPROVES the following SACP schedule, pursuant to N.J.A.C. 14:8-2.10(c):

Reporting Year	SACP
June 1, 2008 - May 31, 2009	\$711
June 1, 2009 - May 31, 2010	\$693
June 1, 2010 - May 31, 2011	\$675
June 1, 2011 - May 31, 2012	\$658
June 1, 2012 - May 31, 2013	\$641
June 1, 2013 - May 31, 2014	\$625
June 1, 2014 - May 31, 2015	\$609
June 1, 2015 - May 31, 2016	\$594

The Board's approval of the SACP schedule is effective immediately. The Board further DIRECTS Staff to develop for the Board's approval a proposed rule that (i) incorporates the SACP schedule into the Board's rules at N.J.A.C. 14:8, and (ii) revises N.J.A.C. 14:8-2.10(c), to provide that the Board's annual review of the SACP will be for the purpose of establishing an SACP for the next reporting year for which an SACP has not yet been established.

OCE recommended that the SREC trading life be modified from one to two years. On the basis of this record, the Board FINDS that increasing the SREC trading life to two years will help to balance fluctuations in the SREC market and better align New Jersey's platform with surrounding states. The Board DIRECTS Staff to develop proposed modifications to the RPS and Net Metering regulations needed to implement this change, in accordance with the schedule set out below.

The OCE included a specific recommendation regarding funding levels and block sizes for continued rebates for small systems. The Board FINDS that rebates are still necessary for the smaller solar systems and that the details regarding funding levels and eligibility should be determined in the ongoing CRA proceeding. Therefore, the Board HEREBY ORDERS that rebates be continued for Reporting Year 2008 and that continuation of rebates for Reporting Years 2009-2012, as well as eligibility requirements and other details, be addressed in the ongoing CRA proceeding.

OCE further recommended that the Board develop a community based solar program, as described above, as a way to address concerns relating to smaller customers. Based on the record in this proceeding, the Board FINDS that the development of community based systems could create a way for smaller customers to participate in the solar market place at a lower cost than that of building a small system on each customer's residence. The Board DIRECTS the OCE to commence a public stakeholder process and to develop specific recommendations regarding a proposed community based solar program to be included in the RPS regulations in accordance with the rulemaking schedule set forth below.

With respect to the appropriate qualification life for those projects which have already received rebates, or legacy projects, and having considered the likely impact upon the perception of risk by potential investors and the additional regulatory complexity of tracking varying qualification lives, the Board FINDS that a qualification life of fifteen years for legacy projects, beginning in the year the project became operational, is appropriate. Therefore, the Board DIRECTS OCE to develop, with public involvement, proposed modifications to the Board's regulations needed to establish a qualification life of fifteen years, with a rule proposal being presented to the Board in accordance with the rulemaking schedule set out below.

OCE's straw proposal included a recommendation for extending the Phase I SREC Pilot Program. The Board FINDS that extension of the Pilot is necessary to continue the development of projects while the Board considers changes to its regulations necessary to implement the policy changes set out herein. Therefore, the Board DIRECTS the OCE to extend the SREC Pilot until the changes recommended herein can be implemented on a permanent basis through any required rulemakings or until the Board orders otherwise.

As noted above, the total cost of the transition to a market based upon the sale of SRECs without the use of rebates is estimated to have a net present value of approximately 3.56 billion dollars from 2009 to 2036, with an estimated total retail sales cost, net present value, of \$154.64 billion. As discussed further below, the Board believes it is critical to limit the rate impacts associated with this decision. As it moves to do so, the Board is mindful that any rate cap mechanism considered by the Board must take into consideration all of the costs associated with meeting RPS requirements, including both SREC costs and rebate expenses. After considering stakeholder comments and the OCE's recommendation, the Board FINDS that a cap of 2% of total ratepayer electricity bills strikes an appropriate balance between pursuing the RPS goals and preventing rate shock and thus constitutes an appropriate limit upon the cost of the program. The Board further FINDS that a capping mechanism on the cost of SRECs, should be triggered if estimated solar incentive costs exceed 2% of estimated retail electricity costs, such freeze to remain in effect until costs drop below the 2% threshold.

The proposed modifications are to establish an appropriate mechanism to monitor and cap overall solar incentives at approximately 2% of total electricity sales on an annual basis. The draft Energy Master Plan contains energy efficiency strategies which may reduce the level of electricity usage in coming years and thus lessen the total cost of this program to the ratepayer. The Board FINDS that the level of usage projected if the EMP strategies are successful is an appropriate benchmark for compliance obligations and hence controlling costs to be paid by the ratepayer.

The Board DIRECTS the OCE to develop proposed modifications to the RPS regulations to implement the percentage and capacity caps in accordance with the rulemaking schedule set forth below. The Board also DIRECTS OCE to propose rules to cap overall solar incentives at approximately 2% of total electricity sales on an annual basis, and to propose to the Board an appropriate mechanism for Staff to report

periodically to the Board on the dollar costs of solar incentives and the percentage of total New Jersey retail costs of electricity attributable to those incentives.

The Board further **DIRECTS** OCE to propose rules that would deem the solar RPS to be achieved in any reporting year in which: (i) installed and operating solar electric generation capacity in New Jersey is sufficient to generate 2.12% of New Jersey's total annual electricity consumption in the year ending May 31, 2021, with the total consumption reflecting Governor Corzine's goal to reduce consumption to 20% below "business as usual" projections; and (ii) solar RECs and SACP used for compliance are at a level equivalent to 2.12% of that reduced projected consumption. Should any other safety valve mechanisms be proposed as part of rulemaking, the Board will consider them at that time.

In addition, the CEEEP's prediction that providing 20% of the State's energy needs from renewable energy sources would affect electricity prices only minimally and could provide significant benefits to offset any increases in electricity prices assumed an annual reduction in the cost of solar generation. Therefore, it is critical that as the Board moves to implement the directives set forth above, in furtherance of policies that support the achievement of the RPS goals, solar cost reductions are carefully monitored to ensure that the anticipated benefits are achieved. The Board **FINDS** that regular reporting to ensure that anticipated benefits are being realized is necessary and **DIRECTS** Staff to develop a reporting protocol for this purpose.

The Board further **DIRECTS** that OCE report to the Board at every other meeting, or as specified below, on the following metrics:

- Megawatts (MW) of installed solar installations;
- MW of solar installations registered to be installed and the construction status;
- Installed costs, reported on a quarterly and annual basis;
- Photovoltaic panel cost, reported on a quarterly and annual basis;
- SREC cost, reported on a quarterly and annual basis; and
- Total SREC costs, total retail market electricity costs and the resulting percentage, reported on an annual Reporting Year basis, reported at the first Board meeting in October each year.

This proceeding identified the importance of securitization as a critical aspect of ensuring that solar installations can occur while reducing regulatory risk and therefore impact to ratepayers. While the rolling 8 Year SACP schedule will send an important signal to financial markets that there will be a certain amount of predictability in the price of SRECs, there is a widespread consensus that an additional mechanism or mechanisms will be necessary for the market to achieve levels of growth sufficient to meet RPS requirements at an acceptable cost. The Board **FINDS** that the financing approach set forth herein facilitates the necessary securitization and further **FINDS** that additional analysis of securitization is needed to determine if it can be provided in a manner that would further reduce the ratepayer impact of supporting solar systems. Therefore, the Board **DIRECTS** OCE to initiate a proceeding to explore whether additional securitization is warranted, and if so, to provide specific recommendations regarding the methods and costs of providing such securitization. The Board further **DIRECTS** that OCE commence this proceeding on or about November 1, 2007 and that

the OCE report back to the Board by February 1, 2008 and May 1, 2008, with final recommendations to the Board by October 1, 2008. To assist in evaluating the benefits and costs of suggested securitization methods and in developing the recommendations to be presented to the Board, the Board further **DIRECTS** Staff to work with Treasury to retain appropriate consulting services, subject to further Board approval.

Some of the changes ordered by the Board require amendments to the Board's RPS rules at N.J.A.C. 14:8-1.1 et seq. and to the Net Metering and Interconnection rules at N.J.A.C. 14:4-9.1 et seq. The Board **DIRECTS** OCE to develop proposed modifications to the RPS and Net Metering rules enumerated above and present the Board with a Rule Proposal(s) by May 1, 2008 and a Rule Adoption document by March 1, 2009.

DATED: 12/6/07

BOARD OF PUBLIC UTILITIES
BY:

Jeanne M. Fox
JEANNE M. FOX
PRESIDENT

Fredrick F. Butler
FREDERICK F. BUTLER
COMMISSIONER

Joseph L. Fiordaliso
JOSEPH L. FIORDALISO
COMMISSIONER

Christine V. Bator
CHRISTINE V. BATOR
COMMISSIONER

ATTEST:

Kristi Izzo
KRISTI IZZO
SECRETARY

I HEREBY CERTIFY that the within document is a true copy of the original in the files of the Board of Public Utilities

Kristi Izzo

New Jersey

New Jersey Renewable Energy Solar Market Transition

Office of Clean Energy Revised - Final Straw Proposal

August 24, 2007

On August 9, 2007, the Office of Clean Energy hosted an all day Stakeholder Discussion to solicit input regarding recommendations to the Board regarding transition of the solar marketplace. Attached is a Discussion Paper that provided background information that formed the basis of those discussions.¹

Based on the record developed in this proceeding, including the stakeholder work group meetings held over the past year, public meeting to discuss the transition and various models, oral comments presented in the public hearings, written comments, rebuttals and the reports prepared by Summit Blue, as well as comments received at the August 9, 2007 Stakeholder Discussion, the following sets out OCE Staff's Revised Solar Market Transition Straw Proposal:

Assumptions:

Model: Competitive, Multiple Year SACP with Rebates for Smaller Projects

Target IRR: 12%

Qualification Life: 15 Years

Annual percentage decrease in SREC/SACP Levels: 3%

Table 1: SREC Levels Required to Achieve Target IRR

Energy Year	2009	2010	2011	2012	2013	2014	2015	2016
SREC	\$611	\$593	\$575	\$558	\$541	\$525	\$509	\$494

OCE proposes setting the SACP level \$100 above the SREC levels in Table 1 above. This results in the following 8 Year SACP schedule:

Table 2: Proposed 8 Year SACP Schedule

Energy Year	2009	2010	2011	2012	2013	2014	2015	2016
SACP	\$711	\$693	\$675	\$658	\$641	\$625	\$609	\$594

¹ The Board reserves the right to modify this straw based on the review by Legal, the Deputy Attorney General's Office and the Commissioners

Table 3 below shows the rate payer impacts of the Revised OCE straw proposal:

Table 3: Rate Payer Impacts of OCE Revised Straw Proposal

Energy Year	2009	2013	2017*	2021*	2023*	Total cost (NPV)
Annual SREC Cost of Straw	\$42,239,108	\$210,235,781	\$490,871,366	\$904,651,223	\$864,372,885	\$3,562,848,815
Estimated Total Retail Sales	\$10,895,247,290	\$13,113,020,842	\$15,782,924,044	\$18,997,269,834	\$20,842,517,172	\$154,644,800,395
SREC cost of Straw as a % of Total Retail sales	0.39%	1.60%	3.11%	4.76%	4.15%	2.30%

The straw sets the SACP values and estimates the market SREC values for 8 years. The annual cost estimates an SACP values continue at a 3% rate decrease through 2021 and no RPS increase through 2035 with decreasing new solar capacity

Other Issues:

1. Legacy Projects:
 - a. Provide legacy projects with same QL as non-rebated financed projects but have the start date be the EY in which the project received the rebate.
2. SREC Vintage:
 - a. Two year trading life.
3. Community Based Solar Program:
 - a. Allow residents or small businesses to "buy" into a centrally located project as opposed to individual home installations.
 - b. The RPS regulations should be clarified to confirm that all solar systems connected to a NJ utility system are eligible for SRECs.
4. Rebates for Small Systems
 - a. OCE recommends that the Board indicate continued support for rebates for small systems.
 - b. OCE recommends that the details regarding the level of funding available for rebates and project eligibility criteria be considered in the ongoing CRA proceeding which will set funding levels for the years 2009 through 2012.

5. Phase II Pilot:

- a. OCE recommends extending or expanding the Phase I pilot to include the provisions to implement the solar transition to assist in developing data and information regarding securitization.

6. Long term monitoring:

- a. OCE recommends that the Board adopt in concept the idea of capping rate payer subsidies for solar and monitoring progress towards achieving the goal of a sustainable solar industry that does not require subsidies.
- b. OCE recommends that the details regarding the mechanics of achieving this objective be considered further through a continued stakeholder process with additional recommendations provided to the Board by November 1, 2007.
- c. The OCE will continue to monitor installation/ panel costs and supply of Solar RECs and report to the Board in order to set the 9th and following successive SACP's based on the rate of decline of these costs and the availability of Solar RECs.
- d. OCE recommends that RPS rule making be initiated to implement a safety value which would maintain the current RPS if the Solar REC supply does not match demand. This safety value would include both a review of the total installation cost/panel cost and the supply of Solar RECs.
- e. The target would be to provide two percent of the electricity through solar at two percent or less of the total cost.

7. Securitization:

- a. OCE recommends that as part of the ongoing monitoring of the Phase II pilot that staff with stakeholder continue to evaluate and investigate whether and how additional securitization can help to lower ratepayer costs or is otherwise warranted.
- b. OCE recommends that the securitization proceeding by November 1, 2007 and that OCE will report back to the Board within 6 months or May 1, 2008.
- c. If such securitization is warranted OCE will initiate appropriate action including rule making or rate making to be finalized by December 1, 2008

8. Rule Making:

- a. The Solar Market Transition will require regulatory updates and revisions. This process will be informed by the pilot. OCE will initiate an informal stakeholder process and will have a draft rule to present to the Board by May 1, 2008.