In the Matter of the Renewable Portfolio Standard	**)**	**Recommendations for Alternative Compliance Payments and Solar Alternative Compliance Payments for Energy Year 2008, A Stakeholder Process Regarding Alternative Compliance Payment and Solar Alternative Compliance Payment Levels for Energy Year 2009 and 2010 or Longer, and a Solar REC-Only Pilot**

Docket Number EO06100744

COMMENTS OF THE
DEPARTMENT OF THE PUBLIC ADVOCATE
DIVISION OF RATE COUNSEL

1. INTRODUCTION

The Department of the Public Advocate, Division of Rate Counsel ("Rate Counsel") would like to thank the Board of Public Utilities ("Board" or "BPU") for the opportunity to present our comments on a variety of important issues on the future of solar energy development in New Jersey. Rate Counsel's comments address four important areas (1) the current analyses conducted by Summit Blue Consulting ("Summit Blue") on behalf of the Board and the Office of Clean Energy ("OCE"); (2) the potential market design structures for organizing the future of New Jersey's solar energy markets; (3) the OCE Strawman proposal submitted on May 25, 2007 and (4) our comments and thoughts on the remaining questions included in the Board's December 21, 2006 Order.

The Board's decision to carve-out a select share of the RPS for solar energy has and will continue to have considerable implications for New Jersey's ratepayers. Rate Counsel has been concerned about this policy decision since its inception. We continue to be concerned about the Board's ongoing commitment to this course of action which will result in a considerable subsidy being transferred from New Jersey ratepayers to the solar energy industry.

Rate Counsel expressed its concerns about the cost of the solar energy commitment during the course of the 2005 RPS proceeding. Our comments in that proceeding included an accompanying report titled *Economic Impacts of*

New Jersey's Proposed Renewable Portfolio Standard. In this report, our consultants (Acadian Consulting Group or "ACG") estimated that the proposed RPS would increase cumulative electricity expenditures for the period 2005 to 2021 by $3.3 billion in net present value ("NPV") terms.

The research included in that report estimated that almost $2.4 billion, or 72 percent of the total RPS rate impact would come from the solar requirements of the RPS alone. These increased costs would be shared across all customer classes with some $867 million (NPV) being paid by residential customers, some $1.17 billion (NPV) being paid by commercial customers and some $343 million (NPV) being paid by industrial customers.

The OCE recently commissioned Summit Blue to examine a number of different solar energy market design models. Part of Summit Blue's tasks included the estimation of the rate impacts and total costs of promoting solar energy under various different market designs. The Summit Blue results corroborate the concerns that Rate Counsel expressed over a year ago: namely, that the adoption of a specific solar set-aside would be an exceptionally expensive policy proposal. Summit Blue, for instance, estimates that even under a status quo model of ongoing rebates and SREC revenues, New Jersey ratepayers can expect to pay some $4.6 billion (NPV) in additional rates to support solar energy. This is virtually double the original estimate that Rate Counsel provided to the Board in 2005.

Part of this difference can be explained by differing assumptions used between the two studies since the ACG study was much more conservative in the overall capital cost for solar energy development and the assumed forecasted cost decreases over time. Even with updated assumptions, the ACG model still estimates a rate impact of $3.8 billion (NPV) versus the Summit Blue estimate of $4.6 billion (NPV). Thus, the Summit Blue Report confirms our earlier claims that adopting a solar specific share to the RPS would be significant and costly for New Jersey ratepayers. The monumental size of this amount ought to strike the Board with some serious degree of concern. A comparison of these estimates has been provided in Table 1.

Table 1: Comparison of Rate Impact Estimates – Solar RPS

Ratepayer Impacts - ACG	Residential	Commercial	Industrial	Total
	---------- (million $) ----------			
ACG Original RPS Impact	$ 1,203	$ 1,627	$ 476	$ 3,306
ACG RPS Impact - Solar Only	$ 867	$ 1,172	$ 343	$ 2,382
RPS Impact - Solar Only (using Summit Blue drivers)	$ 1,377	$ 1,862	$ 545	$ 3,783

Ratepayer Impacts - Summit Blue	< 10 kW Private	> 10 kW Private	Public	Weighted Average
	---------- (million $) ----------			
Rebate/SREC	$ 5,821	$ 4,291	$ 2,998	$ 4,664
SREC Only	$ 7,936	$ 4,735	$ 3,016	$ 5,691
Underwriter Model (15 year)	$ 6,611	$ 4,086	$ 2,573	$ 4,813
Commodity Market Model	$ 7,610	$ 4,726	$ 3,181	$ 5,589
Auction Model	$ 6,296	$ 3,298	$ 2,285	$ 4,301
15 Year Tariff Model	$ 4,930	$ 3,079	$ 1,915	$ 3,602
Hybrid-Tariff Model	$ 6,403	$ 3,992	$ 2,482	$ 4,674

The ACG Report provided by Rate Counsel also included estimates of the impact that the solar RPS share would have on New Jersey's economy. The December 2005 ACG Report estimated that the RPS could result in an economic output decrease of approximately $7.0 billion over the next 20 years. Cumulative job losses were estimated to be 174,130 jobs, or close to 4 percent of the 2005 average number of jobs in New Jersey. The lost wages from these job losses would total $2.8 billion over the 20 year time period.

Rate Counsel believes that the Board's decision on this matter is, and should be, the most important renewable energy decision it will make outside the adoption of the original Renewable Portfolio Standard ("RPS"). The decision in this matter should eliminate the uncertainty and ongoing back-and-forth debate about which market model is better than the other. One of the more frustrating aspects of the current OCE strawman proposal, which is discussed at length in our comments, is that this proposal if adopted will preserve an uncertain environment for solar energy development. This is an unsatisfactory solution for industry and investors; not to mention that its rate impacts have not been provided to any party to date.

The uncertainty created by the current market structure, and exacerbated by the OCE strawman, has resulted in a halt of solar energy installations. Ratepayers are ultimately at risk for this uncertainty. Rate Counsel is exceptionally

concerned about the ongoing uncertainty, and the need to craft a definitive longer term solution.

2. SUMMARY OF POSITION AND RECOMMENDATIONS

Rate Counsel's summary positions and recommendations are as follows:

SREC Shortfalls: Rate Counsel believes that it is important for the Board to adopt a certain and secure market design for solar energy markets. We anticipate a solar energy shortfall in the range of 35,000 to 50,000 SRECs by EY 2009. These shortfalls will continue, and could even increase, as long as there is uncertainty about the market structure and stability of that market structure.

SACP Levels: Rate Counsel supports an Auction Model approach for future solar energy markets. This model could eliminate, or greatly reduce, the need for an SACP. If Rate Counsel's recommendations are not adopted, and the Board chooses to move away from the current structure, to a market structure based upon an SREC-SACP parity relationship as recommended in the OCE strawman, then Rate Counsel would recommend a SACP level of $780/MWh for EY 2009. This estimate has been based upon a preliminary analysis of the model provided by Summit Blue and is subject to revision as additional information becomes available.

Multi-Year Schedule of SACP Levels: Rate Counsel does not support a multi-year schedule for SACP levels. We do not believe that setting a multi-year schedule creates a significant amount of certainty for the market since this schedule is subject to potential regulatory change, and regulatory risk. Contractually binding prices and terms are mechanisms that will provide investors with the certainty they need to reduce the risk premiums of moving investment capital into this market.

Setting a long SACP schedule is similar to setting long-term administratively determined standard offer rates, which experience has shown are bound to be incorrect. Long SACP schedules are a burden because they create a presumption of reasonableness that puts ratepayers at a disadvantage. These long-term price schedules will do absolutely nothing to enhance certainty.

Rate Counsel also does not support setting SREC lives over two-year periods. Such an approach is unnecessary, particularly if the Board disregards the recommendation to set qualification lives for SRECs. Any intra-year shortfalls or mismatches will be small in order of total magnitude, and if qualification lives are eliminated, these small differences can be made up in the later phases of the project.

If the Board decides to set a multi-year schedule of prices, then Rate Counsel would recommend:

(1) The term of these schedules be set only as a bridge to the ultimate goal of establishing some form of securitization through longer term contracting with solar energy installations.

(2) The schedules be set for no longer than a three year period.

(3) The schedules will start at an estimated SACP price of $780/MWh.

(4) Prices should decrease by five percent per year.

(5) The annual rate of SACP price level decreases should increase as the term of the fixed rate schedule increases. So, schedules longer than three years should see annual decreases at some rate greater than five percent. Rate Counsel is concerned that long periods of time will build in a degree of inefficiency and higher than necessary prices will be passed along to ratepayers.

SREC Vintages: Rate Counsel believes that if the Board changes its current solar market design from one that rests upon a combination of rebates and SREC revenues to one that rests completely (or primarily) upon SREC revenues only, then some recognition of the solar projects installed under the more favorable financial support regime needs to be made. If this correction is not made, then projects developed under the older support regime are subject to a windfall, based upon Rate Counsel's estimates, of some $172.5 million ($68.4 in NPV terms).

While Rate Counsel believes that vintaging is important, we also believe that this vintaging should be done in a fashion that makes prior installed programs completely whole under the terms of their original installation. Failure to do so would raise credibility and equity concerns regarding New Jersey's solar market model design and regulatory commitment. The current OCE proposal to limit SRECs from these legacy systems to 5 years may be unnecessarily short and Rate Counsel would suggest a process that attempts to vintage these legacy systems based upon the year in which they were installed. Remaining lives, or discounts to SREC values, would differ depending upon the year in which the project was installed.

A separate proceeding should be set to establish these values and the Board should also hold open the option that one method of potentially vintaging these systems could be through a mandated discount to the par SREC value as opposed to setting a fixed qualification life. This would serve two important goals: first, windfall gains would be limited and second, positive incentives for maintaining these projects over longer periods of time would be preserved.

Qualification/SREC Lives: Rate Counsel does not support the creation of qualification lives for solar projects. This does not promote efficiency or market liquidity, nor is it consistent with the development of other types of generation resources. Setting qualification lives reduces the incentives to maintain long-term operational capabilities of solar projects and ultimately leads to less solar energy, not more, which is contrary to New Jersey's goals of being a leader in solar energy.

Size Limitations/Entity Caps: Rate Counsel also believes that the Board should consider removing, or significantly changing the size limitation requirements for financial support for on-site proposals. New Jersey is already behind on its solar energy goals and is facing considerable costs in developing the goals that have already been established. Rate Counsel, while supportive of some diversity in solar installations, and equally supportive of providing residential access to financial support for solar installations, also believes that unnecessary focus on smaller systems results in fewer overall solar installations at higher overall costs.

Summit Blue Report: Rate Counsel believes that the Summit Blue Report provides a solid examination of the potential rate impacts associated with various solar energy market designs. While parties can differ over input and cost assumptions, the report appears to be set upon a firm foundation with solid and conservative assumptions.

Rate Counsel believes that the single most important result in the study is the overall rate impacts (costs) associated with the solar portion of the RPS under various market designs. Summit Blue found a range of total potential costs from $3.6 billion (NPV) for a Full Tariff Model to a high of $5.7 billion (NPV) for a SREC-Only Model. These costs are exceptionally high and clearly indicate that the Board needs to exercise the utmost caution and diligence in selecting the right market model.

OCE Strawman Proposal: Rate Counsel recommends that the Board reject the OCE strawman proposal since it will lead to an inefficient market design that will not correct the fundamental problems which exist for the future of solar energy development in New Jersey.

However, Rate Counsel does support the community-based initiative included in the OCE strawman and would like to see this opportunity further explored. Such approaches would help small customers to participate and achieve economies of scale.

Preferred Market Design: Rate Counsel recommends that the Board adopt an Auction Model market design for solar energy development but one modified to allow long term contracting for an average contract portfolio of 15 years. Rate Counsel believes this model is the most appropriate since it:

- Creates a transparent market process for bidding solar energy resources.

- Eliminates uncertainty by creating a contract-based framework to securitize solar resource development.

- Reduces transaction costs by minimizing the need for middle men and aggregators.

- Harnesses competitive market forces by forcing efficiency through competitive bidding. Only the least-cost resources will be selected in an auction process.

- Reduces the administrative pressures in setting current period or multi-year SACPs.

- Establishes a market model framework that is consistent with the Board's existing process of securing traditional generation resources (i.e., the Basic Generation Service or "BGS" market)

- Allows for a balanced portfolio of different project sizes and different project contract durations which should assist in minimizing and stabilizing solar energy prices.

- The Auction Model was estimated by Summit Blue as having the lowest policy variance of any market design under consideration. This indicates less market design risk to ratepayers.

- Most importantly, the Auction Model was estimated by Summit Blue as being the lowest cost market design model for which the Board has clear regulatory authority. This is the least cost model to ratepayers at the current time.

An Auction Model based upon Rate Counsel's recommendations eliminates the uncertainty in the current market structure (rebate/SREC model) by creating contractual obligations for winning least cost bids. The model balances intertemporal benefits and costs by allowing for longer term contracts that range from 10 to 20 years. A well crafted Auction Model would encourage efficiency, since bidders would have to compete for the opportunity to serve New Jersey solar markets. This model, coupled with a performance-based rebate program for smaller projects, would help assure that only least-cost, efficient solar energy resources were being developed in New Jersey and receiving the generous support being provided by its ratepayers. An auction-based model should be an efficient and prudent use of ratepayer-supported financial support as long as the auction rules are drafted to accomplish the correct ends.

3. RATE COUNSEL'S POSITION ON SOLAR MARKET FRAMEWORK

3.1. Guiding Principles for Solar Market Development

The OCE sets forth a number of guiding principles on the establishment of a solar energy market model that were recently enumerated in the two Summit Blue Reports. Rate Counsel agrees with many of these, but believes the most important can be compressed into four major categories: (1) certainty; (2) the appropriate balancing of risk; (3) efficiency; and (4) fairness. We believe that all of these categories greatly influence what should be the main goal in the development of solar energy – doing so in a manner that minimizes overall rate impacts and costs.

On the first principle of certainty, Rate Counsel believes that this is one of the primary and biggest issues to tackle in the formulation of a longer-term solar energy market design. Most stakeholders have recognized the challenges associated with certainty in developing solar energy resources. Under the current solar energy market framework, and as noted in the two Summit Blue Reports, there is considerable regulatory uncertainty regarding the long term regulatory commitment to solar energy as expressed in the RPS.

Regulatory uncertainty can result in a significant discount to one of the primary financial support mechanisms that exists under the current market framework: namely, the revenues collected from solar renewable energy credits or "SRECs." Rate Counsel believes that any market design has to address this uncertainty and that failure to do so runs the risk of making any future solar market design unsustainable, subject to ongoing re-calibration, and additional uncertainty created by regulatory consistency issues.

The second guiding principle is the appropriate balancing of risk in the marketplace between those developing solar energy resources, and those supporting the renewable energy attributes of those resources, the ratepayers.

Ratepayers' assumption of risk will come, more than likely, from some form of contracting which is inherent in many of the models that have been discussed within the framework of this proceeding. Under these models, ratepayers assume all regulatory risk through contractual guarantees to prior solar commitments that are potentially stranded by future unfavorable regulatory action. Rate Counsel believes that if customers assume these risks, then the benefits created by a lower opportunity cost of capital would have to inure to ratepayers. Thus, in examining market models, the reduction in risk, and how that is translated into lower potential rate impacts is important.

The third guiding principle is a broad one that includes efficiency. Rate Counsel believes that market forces should be facilitated in instances where they can

promote competition, lower prices, and reduce costs. We see efficiency issues arising in at least two areas as it relates to future solar energy market design issues. The first is in setting prices. Rate Counsel does not support a longer-term ongoing process that would administratively determine the "appropriate" prices for solar energy resources. Regulatory experience over the past two decades, across a wide range of states, has shown that only rarely are administratively determined rates "right on target."

Another issue related to efficiency rests with the size and types of solar energy resources that will be developed in the marketplace. As we have noted in several of our comments to the Board in our responses to the various strawman proposals to date, fine tuning solar energy goals through rigid categorization of various types of installations (like small systems, public systems, etc.) may be self-defeating, and may result in a market inefficiency since it could lead to the development of solar energy resources at a higher overall cost to ratepayers. As noted in the Summit Blue Reports, and as seen in the OCE's reporting statistics for the current solar energy rebate program, larger solar energy installations tend to have lower unit costs than smaller installations. In some instances, the unit cost differentials are as large as $1,000 per installed kilowatt ("kW") of capacity. Rate Counsel does agree with the concept of size diversity in the projects supported, but an unyielding commitment to various market segments in strict numbers can be a problem.

The last guiding principle is fairness. Two specific market design issues that we believe touch fundamentally on fairness are those associated with (1) the treatment of resources funded under earlier market structure regimes and (2) the matching of costs and benefits across time (i.e., intergenerational equity issues).

Rate Counsel believes that solar energy projects developed under the existing market structure and specifically under the current solar energy rebate program need to be recognized. These projects were developed under the expectation that a combination of electricity savings, rebate support, and SRECs would provide the basis for the necessary internal rates of returns and paybacks needed to encourage the development of these resources. SRECs prices have reflected this combined support. However, moving to a market model that rests more fundamentally on performance and SREC revenues could result in a windfall gain for many of these projects, and would be contrary to at least the understood terms and conditions for their development.

Fairness should also address intergenerational equity issues. Solar energy resources are not short-lived assets. Some of the models that have been discussed within this proceeding have explored the opportunity to accelerate contract payments over a period of time as short as five years. While we recognize that for many developers, accelerating and front-loading payments may create additional benefits in reducing risks, these need to be balanced with

some provision that those receiving the benefits are also paying some share of the costs of developing these resources.

3.2. Discussion of Solar Models

Rate Counsel believes that there are seven general models that best reflect the opportunities being considered during the course of this solar market design investigation. These market models include: (1) the current rebate/SREC model; (2) SREC-only model; (3) Underwriter Model; (4) Commodity Market Model; (5) Auction Model; (6) Full Tariff Model; and (7) Hybrid-Tariff Model. Briefly, these models are comprised of the following general attributes.

- **Current Rebate/SREC Model:** This model would effectively work like the status quo whereby solar energy would be supported by a combination of rebates and SREC revenues.

- **SREC-Only Model:** This would be an unfettered market-based approach that would support all solar energy installations. Projects would be supported by electricity savings and SREC revenues that were attained from the sale of their renewable (solar) energy attributes.

- **Underwriter Model:** An underwriter model is one of several providing securitization, through a 15-year contract, of a solar energy project. The underwriter serves as the contracting entity for all solar projects funded under this mechanism and sets a SREC price floor to guarantee projects. The underwriter uses SACP revenues to support all projects striking on the solar put.

- **Commodity Market Model:** This represents a variation of the underwriter model which takes its basic characteristics, but allows projects less than 100 kW to be funded under the current rebate process for three additional years to assist in the transition to the new market design. Rebates would be discontinued after three years.

- **Auction Model:** This works much like a competitive bidding process utilized in traditional regulation. Projects would bid into an auction for 5 year contracts which would be used to securitize projects. Projects would be selected in least-cost fashion up to the point where the annual total capacity target is met. All projects are paid the market clearing price for solar energy (i.e., the last incremental bid into auction).

- **Full Tarff Model:** A tariff is developed for solar energy which supports 15 year contracts for solar energy resources. The revenues collected under the tariff serve as the support for the securitization of the solar projects developed under the market design.

- **Hybrid-Tariff Model:** This is a market design supported by a combination of 10 year contracts and SREC revenues from the market.

3.3. Rate Counsel's Recommended Solar Market Model

Rate Counsel supports the development of an Auction Based Model because the nature of this market design best meets many of the overall guiding principles discussed earlier. Rate Counsel believes this form of market design is the most favorable for ratepayers in the development of solar markets for the following reasons:

- Creates a transparent market process for bidding solar energy resources.

- Eliminates uncertainty by creating a contract-based framework to securitize solar resource development.

- Reduces transaction costs by minimizing the need for middle men and aggregators.

- Harnesses competitive market forces by encouraging efficiency through competitive bidding. Only the least-cost resources will be selected in an auction process.

- Reduces the need for administratively determined current period or multi-year SACPs.

- Establishes a market model framework that is consistent with the Board's existing process of securing traditional generation resources (i.e., the Basic Generation Service or "BGS" market)

- Allows for a balanced portfolio of different project sizes and different project contract durations which should assist in minimizing and stabilizing solar energy prices.

- The Auction Model was estimated by Summit Blue as having the lowest policy variance of any market design under consideration. This indicates less market design risk to ratepayers.

- Most importantly, the Auction Model was estimated by Summit Blue as being the lowest cost market design model for which the Board has clear regulatory authority. This is the least cost model to ratepayers at the current time.

Rate Counsel recommends that the Auction Model take the following form:

(1) The Board would issue an Order that would establish a solar energy market auction.

(2) The Board would issue an Order to require all load serving entities ("LSEs") to secure a fixed percentage of their solar energy purchases from this auction which could be called the "solar generation service" ("SGS") auction.

(3) The Board would set a mandatory percentage purchase schedule for a five year period.

(4) The Board would issue an Order which requires parties to develop, on an expedited basis, standard contract terms for use in the auction to securitize the procured solar energy. These contracts should allow for the re-sale of capacity/energy under contract that is unused or unneeded by an LSE. This would work in a fashion similar to the capacity release market in natural gas.

(5) The auction would establish three separate contract "baskets" into which solar energy resources would be allowed to bid: a 10 year contract basket; a 15 year contract basket; and a 20 year contract basket.

(6) All types of solar energy projects would be allowed to bid into the auction (small, large/private; large/public).

(7) Process would be a Dutch auction where the last incremental bid selected sets the market clearing price ("MCP"). All lower bids are paid the market clearing price.

(8) If the auction is undersubscribed, contracts will be awarded on first nominated basis, those LSEs not awarded contracts will pay the lower of the MCP or the SACP into a fund to support future solar energy development.

(9) If the auction is oversubscribed, the MCP will be held open for other potential market participants willing to purchase their solar energy requirements under the various contract terms offered. Eligible and/or willing bidders can register with the auction administrator to agree to hold open their capacity offers for 6 months at the market clearing price. A general notice of available capacity, terms and market clearing price will be made on the administrator's and/or OCE home page.

(10) Results of the auction will be made public and open to all participants after the close of the auction and winning bids have signed contracts.

(11) No qualification lives will be given to any solar energy projects. However, projects will be restricted to participating in the auction for a total of 20 years. SREC sales from systems that have met their 20 year limitation can be made, but will be restricted to the cash market (i.e., non-auction market).

(12) Smaller systems (less than 10 kW) will be provided additional financial support through a performance-based incentive mechanism. These projects will be paid a fixed incentive amount per kWh generated and the amounts will be set at a level to assure the appropriate payback/IRR assumptions.

4. RATE COUNSEL'S VIEWS ON SUMMIT BLUE REPORTS

4.1. General Observations of the Reports and Rate Impact Analysis

Summit Blue Consulting was hired to conduct two different analyses on the various solar energy market design models. The first analysis, culminating with a March 15, 2007 report entitled "Preliminary Review of Alternatives for Transitioning the New Jersey Solar Market from Rebates to Market Incentives," was to provide a preliminary, conceptual and policy analysis of the various solar energy market models that have been under discussion for over a year. The second, and more important analysis conducted by Summit Blue was a rate impact estimate of the various solar market models. The rate impact analysis report was released to stakeholders on April 25, 2007.

Before discussing the Summit Blue rate impact report, Rate Counsel would like to express our concerns about stakeholders' ability to adequately critique and respond to this important report. First, the report is indicated as a "draft" and it would appear highly like that the "final" version of this report will be issued after the comment period in this proceeding. As such, parties will be denied the opportunity to comment on any changes between the draft and final version.

In addition, full publication of the Summit Blue model results and inputs has not been provided to the parties in this proceeding. On Monday, June 18, 2007 parties were provided with a generic form of Summit Blue's pro forma (which excluded calculations and the Monte Carlo analysis). This is roughly four days prior to the date in which these comments are due to the Board. Given the late date in which this information has been provided, plus the fact that there are several unexplained inconsistencies between the data provided by Summit Blue and what was included in their report, and the fact that the OCE strawman proposal has not been subjected to the same rate impact analysis as the other models under consideration, Rate Counsel would like to reserve our right to supplement our written comments with additional rate impact analysis as more documentation and clarification becomes available from Summit Blue and OCE.

4.2. Comments on the Summit Blue Rate Impact Analysis

Summit Blue's rate impact analysis appears to be based upon a general pro forma model that examines the overall cost of each solar energy market model from the perspective of a specific type of development. The three different types of "typical" developments considered in the analysis included: small/residential systems (less than 10 kW); large private systems (greater than 10 kW); and large public systems (larger than 10 kW).

The costs estimated in this analysis are the incentive payments needed to stimulate development of each type of solar energy project under various assumptions on the IRR (measured on a percentage basis) and project payback (measured in years). Incentive payments will vary across different models depending upon the nature of the financial support (i.e., rebate/SREC payments; SREC revenues only, etc.) and the degree of risk and uncertainty inherent in the different market design models.

For instance, a completely SREC-only model, with no securitization, would be considered a more risky model, requiring high risk premiums and incentive payments, than one completely securitized by a long term contract and revenue stream like that found in the Full Tariff Model. The results of the models are then aggregated (summed) and discounted across time.

Summit Blue's analysis adds another interesting and useful component which includes what is referred to as a Monte Carlo simulation in order to transform what is a relatively deterministic profitability model into one that has stochastic components in order to assess the underlying policy uncertainty associated with each proposed market design.

Summit Blue's modeling approach is based upon two general sets of information that are needed to make it operational. The first set of information is the general operational and cost characteristic assumptions that are necessary to conduct any type of pro form simulation model of this type. The second and equally important set of information is the underlying assumptions of how risks are quantified and allocated to various parties under the various solar energy market design models.

Summit Blue identifies three general categories of risk which include: equipment risk; performance risk; and merchant risk. Of the three, Summit Blue correctly notes that merchant risk poses the biggest problem for any future solar energy market design, and within this category, regulatory risk poses the single biggest risk that is within the direct control of the Board.

As Summit Blue notes, the entire market for SRECs has been created artificially by the Board. Major changes to RPS goals, or the rules for selling or buying

SRECs could create concerns about the stability of solar energy markets and the ability of sources of capital to fully recover their return of, and on a solar capacity investment. It is the risk of the potential for a wholesale change in the regulations governing the solar energy market in New Jersey that concerns these sources of solar investment capital.

Regulatory risk creates a potential stranded investment problem. If the Board, for instance, were to change its policies on the development of solar energy, current solar investments could be rendered uneconomic overnight since the artificial market for these resources would be eliminated. It is this type of risk for which investors require a higher return. The Board should keep in mind that none of the market design models under consideration eliminate this potential regulatory risk, and it is not Rate Counsel's intention that regulatory risk can, or should, be eliminated. We recognize the Board's (and Rate Counsel's) statutory duty to assure just and reasonable rates on an ongoing basis. These models merely serve as a mechanism of shifting or allocating this regulatory risk between various parties.

Summit Blue presented a useful figure, that has been replicated in Figure 1 which shows the nature of this risk and how the various models allocate risk between the ratepayers and solar energy project developers.

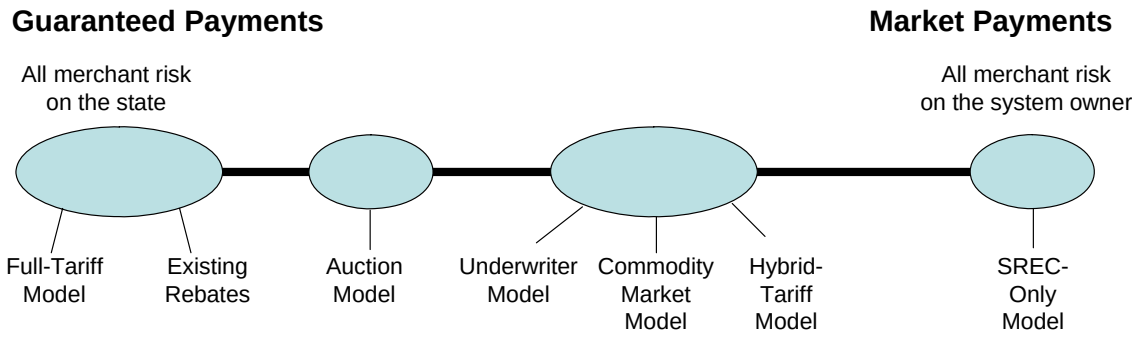

Figure 1: Risk Allocation Among Market Participants

Two important aspects of this chart need to be highlighted. The first is that the length of the bar, representing total risk, does not shorten as the model payment guarantees change. The bar simply shifts (or tilts) towards one party or another since one is bearing more of the risk relative to the other. The second conclusion, which was also drawn in the Summit Blue Report, is that the greater the guarantee of the project, the more the risk is allocated to ratepayers.

Risk is allocated to ratepayers within the various models through the degree of securitization inherent in the market design. Those models with low degrees of risk (like an Auction Model or Full Tariff Model) are backed by contractual obligations assigned to ratepayers regardless of any future Board actions changing the nature of New Jersey's solar policies.

If the Board changes its policies at some point in the future, ratepayers will be obligated to uphold the then-current contracts, assuming a securitized solar market design model is in place. The binding ratepayer commitment to these resources is very similar to that experienced during retail restructuring where retail customers were obligated to support the ongoing book costs of regulated utilities even though Commissions in various parts of the country were moving towards competitive retail markets.

While Summit Blue's consideration of risk and its potential costs on various different market models is appropriate, there is one important model consideration that was omitted from their analysis which is associated with efficiency.[1]

Various market models send different efficiency signals to developers about the aggressiveness with which they attempt to drive down the overall delivered cost of solar energy. Rate Counsel suggests to the Board that market design models that rely more upon guaranteed payments that are set through regulation, as opposed to the market, will result in a greater degree of inefficiency, and potentially higher costs to ratepayers. A diagram that examines the risk payment options has been provided in Figure 2.

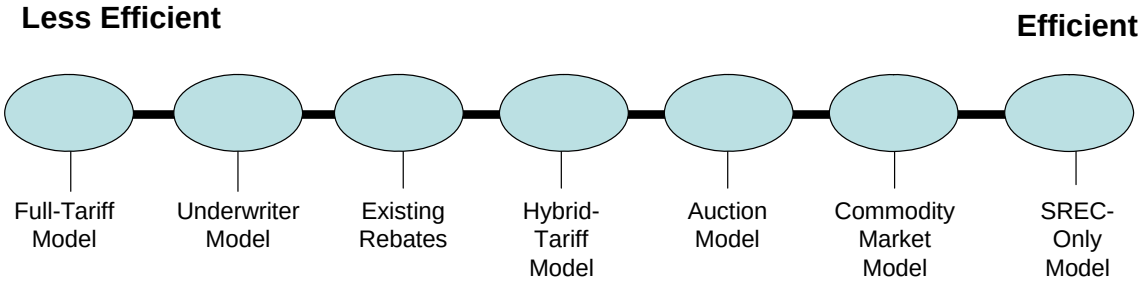

Figure 2: Efficiency Rating Among Market Models

This inefficiency represents a cost associated with the various market models much like the risk premium. Thus, it would be appropriate to include an inefficiency premium in each of these models which could, in theory, reduce the benefits associated with lower risk (i.e., low risk premiums) in the modeling framework developed by Summit Blue.

Rate Counsel is especially concerned about those market models which are based upon administratively-determined tariffs, standard offers, or in the case of the OCE strawman, SACPs. The inefficiencies arise with prices that are set by regulation, as opposed to market signals, can easily offset the benefits created

[1]Summit Blue does consider efficiency from the perspective of over- or under-subsidization which could be created by the various different models. Rate Counsel agrees with Summit Blue that this type of efficiency (inefficiency) is an important consideration, but differs from the one we are highlighting in our comments.

by the securitization offered in several of the models, particularly the Full Tariff model. This is the main reason why Rate Counsel believes that a competitive bidding approach, like that inherent in an auction-style model, is preferable and accommodates the interests of all stakeholder groups: regulatory oversight and review for the Board, OCE and ratepayers leading to least cost procurement; and an open and transparent market for developers.

An Auction Model based upon Rate Counsel's recommendations eliminates the uncertainty in the current market structure (rebate/SREC model) by creating contractual obligations for winning least cost bids. The model balances intertemporal benefits and costs by allowing for longer term contracts that range from 10 to 15 to 20 years. An Auction Model would also encourage efficiency since bidders would have to compete for the opportunity to serve New Jersey solar markets. This model, coupled with a performance-based rebate program for smaller projects, would help assure that only least-cost, efficient solar energy resources were being developed in New Jersey and receiving the generous support being provided by its ratepayers. Utilizing an auction-based model for this market is clearly an efficient and prudent use of ratepayer-supported financial support.

4.3. Comments on Summit Blue's Rate Impact Conclusions

One of the most important conclusions reached in the Summit Blue Report that continues to cause significant concern for Rate Counsel is the total cost of promoting solar energy within the RPS. The most expensive scenario estimated by Summit Blue (SREC Only Model) found that the cost of promoting solar energy in New Jersey could cost ratepayers some $5.7 billion (NPV): a staggering amount of money. This shows the significant amount of resources that are at stake in this proceeding.

If minimizing ratepayer impacts is the most important consideration in the development of a solar energy market design, and Rate Counsel believes this should be the most important consideration, then there are only two serious market design contenders for the Board's consideration: the Full Tariff Model and the Auction Model. Rate Counsel believes that the conclusions from the Summit Blue Report support our recommendation for the use of an Auction Model.

The rate impact results from the Summit Blue Report supports the position that an auction-based approach to developing solar energy markets would represent an appropriate balance between creating the certainty needed in the market for solar development, yet at a cost that is reasonable for ratepayers (or at least as reasonable as can be expected in solar energy markets).

The results of the Summit Blue Report indicate that:

- The Auction Model would represent an improvement over the current rebate/SREC model in terms of rate impacts. Overall rate impacts would be reduced from $4.6 billion (NPV) to $4.3 billion (NPV) under an auction model.[2]
- The rate impacts associated with the Auction Model were the second lowest of those estimated by Summit Blue.

The model with the lowest estimated overall rate impacts in the Summit Blue Report is the Full Tariff Model. Rate Counsel has a number of concerns about the Full Tariff Model and believes that when other factors are considered, such as the efficiency of the approach and the Board's authority to implement such a mechanism, tariff-based approaches will prove to be inferior to the auction-based approach that we have proposed.

While this cannot be confirmed until the detailed workpapers are provided by Summit Blue, Rate Counsel believes that one of the reasons the current Auction Model rate impacts are inflated relative to the Full Tariff model rests with the use of long term contracts (15 years) in the Full Tariff model and short term contracts (five years) in the Auction Model. If the current framework for the Auction Model were expanded to include a portfolio of contracts, averaging 15 years, Rate Counsel believes the overall rate impact results would differ very little between the two approaches.

Table 2 presents Rate Counsel's estimates of rate impacts associated with changing the Auction Model from a five year to 15 year basis.

Table 2: Rate Impact Analysis with 15 Year Auction Model[3]

	<10 kW Private	>10 kW Private	Public	Weighted Average
	---------- ($/MWh) ----------			
Rebate/SREC	$ 5,171	$ 3,864	$ 2,815	$ 4,198
SREC Only	$ 5,598	$ 3,208	$ 1,871	$ 3,923
Underwriter Model - 15 year	$ 4,922	$ 2,926	$ 1,695	$ 3,503
Commodity Market Model	$ 5,414	$ 3,423	$ 2,168	$ 3,994
Auction Model	$ 5,308	$ 2,670	$ 1,694	$ 3,549
Auction Model - 15 year	$ 4,530	$ 2,715	$ 1,546	$ 3,231
15-Year Tariff Model	$ 4,530	$ 2,715	$ 1,545	$ 3,230
Hybrid-Tariff Model	$ 4,723	$ 2,828	$ 1,611	$ 3,367

[2]These difference in model estimates are based upon reported values in the original Summit Blue report. Values included in Table 2 and Table 3 are based upon estimates taken from the spreadsheet provided by Summit Blue on June 18, 2007. This spreadsheet appears to have revised market structure model estimates which differ from those included in the original report.

[3]Based upon spreadsheet provided by Summit Blue on June 18, 2007.

The potential parity of the overall rate impacts between the two models should not come as a surprise since (a) the risk premiums provided in Figure 2-8 of the Summit Blue Report are the same between the two models (which is zero), and (b) the administrative cost differences between the two models is *de minimis* (a difference of only $0.000002/kWh as provided in Figure 3-3 of the Summit Blue Report). If important considerations associated with market structure efficiency were considered, Rate Counsel believes that the Auction Model would prove to be the superior alternative. There are two potential sources of market structure efficiency that could arise in the Auction Model which would not be present in the tariff-based approach as it has currently been proposed.

The first potential source of efficiency is that competition through the bidding process would likely lead to greater recognized unit cost decreases than those which essentially would be administratively-determined in a Full Tariff Model approach. The Full Tariff model would require parties, on an annual or periodic basis, to argue (or potentially litigate) about the potential rates upon which the solar energy tariffs should be based, much like the SREC process today. An Auction Model would allow the true cost decreases achieved in the New Jersey market to be recognized.

A good example of the difficulty in understanding cost trend issues in the solar industry is found in the Summit Blue Report. In formulating their assumptions, Summit Blue noted that current reporting information on system costs in the CORE program indicated annual cost decreases of some 4.3 percent over the period examined (2002-2007). In examining the rate impacts, however, Summit Blue used a different and more conservative ("sustainable") cost trend decrease of 2.2 percent which has been reported by the U.S. Department of Energy, Energy Information Administration.

The second potential source of efficiency is that competitive forces are likely to drive the development of larger systems which can take advantage of economies of scale. Thus, the development shares used by Summit Blue in estimating a "weighted average" result for the Auction Model is probably not the same as the one which would be utilized in the Full Tariff Model, which would be based upon some administratively-determined allocation and not one driven by the market. Just a simple change from examining the Auction Model results on a weighted average basis versus a simple-average basis, results in rate impacts which are very comparable to the Full Tariff Model ($3.9 billion for the Auction Model; $3.3 billion for the Full Tariff Model).[4]

The differences between the emphasis on small systems versus larger systems is not a trivial issue. While Summit Blue does not emphasize this result in their report, Table 3-2 shows that there are considerably higher costs associated with

[4]Based upon estimated included in original report.

the promotion of these smaller systems. The difference between the complete development of residential systems and large private systems is around $3.0 billion (NPV). While no one is suggesting that all of the solar energy RPS goals should be limited to the small/residential sector, it is important to understand that every MW of capacity emphasized in this sector comes at close to a 3:1 cost disadvantage relative to larger private systems.

The market efficiency gained by utilizing the competitive minimum efficiency scale for solar development is consistent with the OCE strawman proposal of developing a community-based solar energy program, which Rate Counsel could support under the appropriate conditions. A community-based methodology effectively allows small residential customers to capture the economies of scale associated with larger scale applications. This has implications for the rate impact analysis conducted by Summit Blue since if greater weight can be given to lower-unit cost projects (private), even though the source of development capital is from smaller residential sources, this would drive down overall solar development costs considerably. Unleashing private entrepreneurship on this community-based system idea would more than likely lead to a number of interesting configurations that could benefit all customer classes and result in a much more efficient program than one completely directed by regulation.

Rate Counsel has done a preliminary analysis examining the difference between the various models based upon some simple assumptions regarding additional cost decreases that could be created through each market design's enhanced efficiency signals. Rate Counsel assumes that the Commodity Model, the SREC-Only Model and the Auction Model would create the greatest opportunities for efficiency gains perhaps to the order of an additional 1 percent per year.[5] The Hybrid Tariff Model and the current SREC/Rebate Model were assumed to promote an additional 0.5 percent efficiency gain (over the baseline cost decrease). The Underwriter and Full Tariff Models were assumed to promote no additional efficiency opportunities other than what was already included in the Summit Blue assumptions.

The results from our analysis have been provided in Table 3, and show that the more competitive market model structures, as would be expected, can provide additional rate impact reducing opportunities.

[5]Even with an additional one percent, the overall assumed annual cost decreases would be at a rate lower than the current experience in the CORE program.

Table 3: Rate Impact Analysis with 15 Year Auction Model and Efficiency Gains[6]

	<10 kW Private	>10 kW Private	Public	Weighted Average
	---------- ($/MWh) ----------			
Rebate/SREC	$ 5,076	$ 3,829	$ 2,815	$ 4,145
SREC Only	$ 5,013	$ 2,874	$ 1,679	$ 3,514
Underwriter Model - 15 year	$ 4,922	$ 2,926	$ 1,695	$ 3,503
Commodity Market Model	$ 5,276	$ 3,343	$ 2,123	$ 3,897
Auction Model	$ 4,942	$ 2,488	$ 1,579	$ 3,306
Auction Model - 15 year	$ 4,241	$ 2,543	$ 1,449	$ 3,025
15-Year Tariff Model	$ 4,530	$ 2,715	$ 1,545	$ 3,230
Hybrid-Tariff Model	$ 4,551	$ 2,726	$ 1,554	$ 3,245

Lastly, Rate Counsel supports the use of the Auction Model because it results in the lowest amount of policy variance relative to other market structures. That is, the Auction Model has the least expected deviation from its estimated rate impact. Thus, while the Auction Model may have been estimated to have the second lowest overall rate impact of the models considered, the chances of the actual result deviating from this estimate is much larger for the Full Tariff Model than the Auction Model.

Figure 3 provides an example of the potential ranges of the rate impacts from the various market design models under consideration. The range of the Auction Model has been highlighted and it is easily seen its range is much tighter than other models. Thus, while the Full Tariff Model has an average expected rate impact of $4.231 billion, that estimate could be as high as $5.291 billion which is very close to the overall Auction Model upper bound. Thus, the Board would be well-served from a policy variance, as well as rate impact perspective, to choose the Auction Model.

[6]Based upon spreadsheet provided by Summit Blue on June 18, 2007.

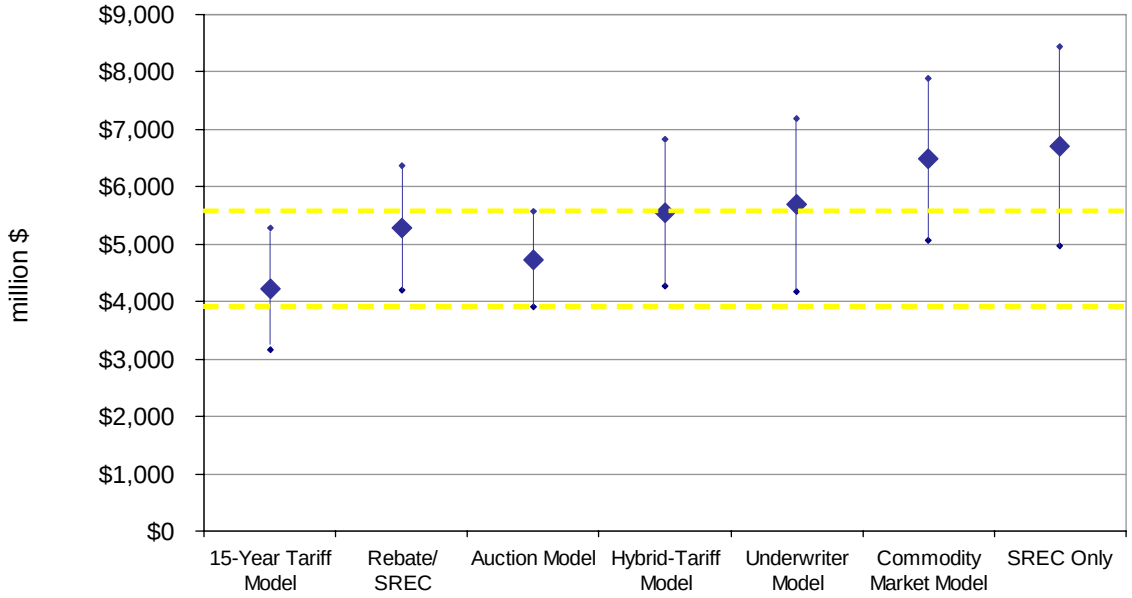

Figure 3: Weighted Average RPI Comparisons with Deviations[7]

Rate Counsel would like to comment on the relative strengths and weaknesses of both models (Full Tariff Model, Auction Model) as identified by Summit Blue. A summary of Summit Blue's subjective conclusions regarding the two models has been provided in Figure 4 below.

[7]Based upon estimates included in original Summit Blue Report.

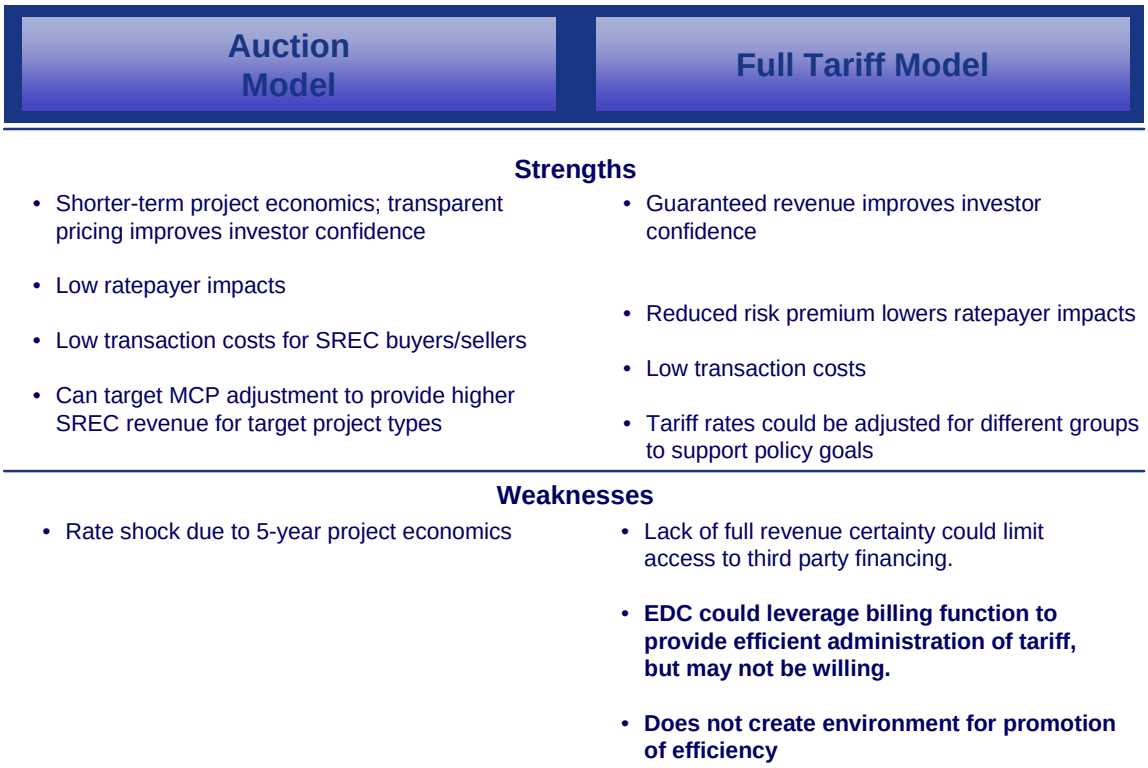

Figure 4: Auction versus Full Tariff Model

As seen from the table, both models (Auction, Full Tariff) have some of the same strengths: both increase investor confidence; both result in lower ratepayer impacts than other models; both have lower transition costs; both have features which would allow certain types of projects to be targeted. The more important issues the Board should consider, however, are the weaknesses between the two different models.

For the Full Tariff Model, Summit Blue notes that there are two primary weaknesses. The first is associated with electric distribution company ("EDC") billing functions for which Rate Counsel has no opinion. The second weakness, however, represents what we see as a fatal flaw in the Full Tariff Model; namely, that the model completely undermines the Board's policy intent of creating competitive stand-alone renewable energy markets. Summit Blue is entirely correct in noting this weakness. The Full Tariff Model has little compatibility with competitive markets and subjects the development of alternative energy to the traditional regulated utility model.

The most apparent weakness of the Full Tariff Model that went unnoticed by Summit Blue, but should be easily recognized, is that the Full Tariff Model does not create a strong environment for the promotion of efficiency. The Full Tariff market design could squelch any market dynamics since prices will be determined by regulation not competition. Utility regulation over the past 20 years has clearly recognized the shortcomings of administratively-determined

rates and their potentials for sending inappropriate and inefficient signals to the formation of capital.

For the Auction Model, Summit Blue sees the five-year terms as being a significant weakness, a conclusion in which Rate Counsel would agree. This weakness is why Rate Counsel has proposed a portfolio of contract term options which should average around 15 years. Rate Counsel questions many of the other Auction Model weaknesses listed by Summit Blue.

First, Rate Counsel does not agree with Summit Blue that the Auction Model would eliminate the Board's ability to take advantage of dynamic changes in the market. Intra-year changes are likely to be small and there is nothing to suggest they would be fleeting in nature and unable to be captured in the following years' bids. Further, even if this were a serious limitation to the Auction Model, it would not be one to which the Full Tariff Model is exempt: it too would suffer from this same fate since contracts are likely to be let at a fixed point in time based upon some administratively-determined standard offer rate. From a timing perspective, this differs little from an Auction Model since it also sets a price (based on markets) at a fixed point in time following the opening of the competitive bids.

The second subjective weakness listed by Summit Blue regarding the Auction Model is its administrative costs. However, the estimated difference between the administrative costs in the Full Tariff and Auction Model included in the rate impact analysis was only $0.000002/kWh: hardly an amount to constitute a huge disadvantage.

The last weakness of the Auction Model highlighted by Summit Blue has been that large players may dominate the auction, resulting in prices "too low" for others. Rate Counsel does not see prices which are "too low" as a weakness but a benefit for ratepayers. Obtaining more efficient and lower unit cost resources should be a goal of the Auction Model and smaller-scale projects should be primarily promoted through a performance-based rebate program.

Rate Counsel would also like to note that many of the discussions and comments during the course of these market design debates has suggested that an Auction Model would be subject to market power abuse. Rate Counsel believes this is a "red herring". Market power abuses should be easily observable and monitored particularly given the almost infinite number of pro forma and profitability analysis that have been conducted during the course of this investigation.

Rate Counsel believes that the Board could establish some very rigorous bidding certification and penalties which would strongly discourage anticompetitive behavior. Solar energy projects are highly dependent upon the financial support of New Jersey ratepayers. It would be a straightforward process to permanently

exclude, if not additionally penalize any projects which attempt to bite the proverbial hand that feeds them.

5. RATE COUNSEL'S COMMENTS AND POSITIONS ON REMAINING BOARD QUESTIONS

5.1. Forecasted Solar Shortfalls for EY2009-2010 (Question 1)

Rate Counsel believes that the potential shortfall for solar energy resources over the EY 2008-EY 2009 period could be as large as 35 to 50 MW. These estimates are based on current installed capacity and the status of new projects as reported in the CORE Status Report on June 11, 2007. This assumes that 35 MW of solar capacity is online by June of 2007 and that 5.4 MW of "Complete and Paid" capacity as well as 3 MW of "New Approvals" are online by the end of the year. It also assumes 8 MW of "New Applications" and almost 23 MW of "Outstanding Commitments" will come online in by EY2009.

5.2. Optimal SACP Levels and Structure (Questions 2 through 7)

The Board has solicited comments on several issues that Rate Counsel would characterize as addressing appropriate SACP levels and structure on a forward going basis. These include inquires about the optimal SACP level, the number of years over which the SACP should be set, the progression of SACP levels over time and the advantages and disadvantages of fixed SACP schedules.

Rate Counsel would note that one of the benefits of adopting some form of the Auction Model is that it would reduce if not eliminate the need to set SACP levels.

Rate Counsel agrees with the Summit Blue Report, as well as the comments of several utilities in earlier strawman comments in this proceeding, that characterize the nature of the SACP as twofold. The first purpose is to set a price and market of last resort for LSEs in order to meet their solar energy requirements should none be readily available through the purchase of SRECs. The second purpose of the SACP is to serve as a type of circuit breaker, or ceiling price, in the purchase of solar energy requirements. The SACP prevents runaway prices that could, in theory, occur in the SREC market.

Rate Counsel has supported both purposes of the SACP and should the Auction Model or some variation not be adopted, Rate Counsel would continue supporting these two purposes of the SACP. Rate Counsel would also note that there is some continuity between how the SACP works for solar energy and the ACP for other non-solar renewables. If the OCE strawman is adopted, however, this relationship will be different between the two sets of renewable resources. If SACPs are set at levels which are to serve as both ceiling and floor for solar energy development, then the purpose of the SACP expands into being one that

will need to be set at levels that meet investor expectations about IRRs and paybacks in order to encourage ongoing development.

Rate Counsel would not be supportive of a multiyear schedule of SACP levels, particularly if the new SACP levels are an attempt to stimulate the market in and of themselves (i.e. serve as both floor and ceiling on solar market). Multiyear schedules of this nature, while potentially providing some degree of certainty, will ultimately not provide enough certainty needed by the market to pass along discounts associated with decreased risk for solar development. Fixed multiyear schedules do nothing to provide certainty since the schedules can be easily changed or eliminated in future years.

Multiyear schedules also run the risk of being an inefficient mechanism for encouraging solar energy. If the rates are set too high, a inefficient level of higher cost solar development will occur. If the rates are set too low, an inefficiently low level of solar development will occur. Assuming that the same solar installation goals encompassed within the RPS are maintained, then any shortfalls that occur would have to be made up by ratepayers leading potentially to higher than expected increases in RPS-related costs and potentially some rate discontinuities or "shocks."

Multiyear schedules for SACPs also run the risk of being overly rigid and creating another set of potential problems. Setting a multiyear schedule, if done over a longer period of time, could create multiyear opportunities for errors. These would be difficult to correct without changing the schedule of prices mid-stream, which would undermine the original goals of the scheduling in attempting to provide some type of price certainty to the market.

Rate Counsel does not support setting SREC or SACP levels over time. If our recommendation for the development of some type of Auction Model is not accepted, we would recommend that the levels be set annually and that if the Board decides to move towards a multiyear schedule, it does so for a period that does not exceed three years in duration. If the original intent of the SACP is to preserve its twofold relationship as both a credit of last resort and circuit breaker, then the Board should have enough information to reasonably set these prices on a year to year basis.

6. RATE COUNSEL'S COMMENTS ON THE OCE STRAWMAN PROPOSAL

6.1. Overview of the OCE Strawman Proposal

The OCE has developed a strawman proposal for restructuring solar energy markets to facilitate meeting the solar energy goals required by the Board under the RPS. The OCE notes in their comments that the strawman proposal has been informed by the wide range of comments, discussions, and white papers included in various clean energy meetings. The recommendation is also

supposedly informed by two recent reports commissioned by the Board, supervised by the OCE, and conducted by the outside consulting firm, Summit Blue, in examining various solar energy market structures.

One of the primary purposes of the Summit Blue Report has been to examine what Rate Counsel would characterize as a relatively well-established set of solar energy market models that have been under consideration by all of the stakeholders over the past year. These models include: (1) the current rebate/SREC model; (2) SREC-only model; (3) Underwriter Model; (4) Commodity Market Model; (5) Auction Model; (6) Full Tariff Model; and (7) Hybrid-Tariff Model. These models have been discussed at length over the past year, included in the Energy Master Plan ("EMP") discussions, and were examined in both a qualitative and quantitative framework by the two recent Summit Blue Reports.

The recent OCE strawman proposal, however, represents a significant departure from the market structure frameworks discussed over the past year by different stakeholder participants. Generally, the OCE strawman proposal establishes a market framework that defines three market segments of development: small residential systems (those less than or equal to 10 kW in size); large private systems (those greater than 10 kW in size); and public systems (also greater than 10 kW in size).

OCE proposes to support all of these market segments through the use of Solar Alternative Compliance Prices ("SACP"). Under their proposal, SACP prices will be set across a number of different years to reflect what OCE believes are the necessary payback periods to entice market development of these solar energy resources. Since SACP values are proposed to be set at levels which entice development, and these values are still anticipated to serve as a market cap price, then it appears highly likely that Solar Renewable Energy Credits ("SRECs") will effectively be set at par-value with a SACP. In other words, under the OCE strawman proposal, a SACP and SREC will more than likely become one and the same.

The proposal to set SACPs and SRECs at essentially the same value represents a significant departure from the current solar energy market structure that allows SRECs to follow market trends and allows values to be determined between willing buyers and sellers in a freely negotiated market transaction. SACPs, on the other hand, were established as both a type of circuit breaker to cap the potential upper bound for solar energy prices, and to serve as a potential solar energy market of last resort should LSEs be unable to secure enough SRECs to meet their RPS requirements.

In their role as credit of last resort, SACPs were set high enough to discourage parties from using it as an easy stop-gap to meet solar requirements, but not so high as to diminish its value as a price ceiling. It is Rate Counsel's interpretation

of the straw proposal that the relationship between market SRECs and administratively capped SACPs is fundamentally changed under the OCE proposal.

If SACPs are now set at levels to encourage development, as opposed to being set at levels somewhat higher than the amounts needed for development, then this new level will serve as both floor and ceiling for solar energy prices. Thus, SACPs and SRECs will now become one and the same, with all solar energy credit prices being administratively-determined by the Board for a fixed rolling eight year basis. Every year, new prices would be set for the additional year added to the eight-year period.

The residential and small commercial and public system market segment will be eligible for an additional support mechanism under the OCE strawman proposal which is defined as a "performance-based" rebate approach much like the existing system. According to the OCE strawman, the rebate payments will be determined annually and based upon approved funding levels for that year. It is anticipated that incentive payments will be decreasing on a per-kW level of support as more projects are installed. This will be determined by MW blocks of capacity, so the first 8 MWs of applications will receive one rebate level per installed kW, the next 6 MWs will receive a lower amount per installed kW.

An additional innovation that has been included in the OCE proposal has been the concept of a "qualification life," which will serve as a means to differentiate between different types of solar energy developments with each type of development (small/residential, large/private, large/public) receiving different SREC lives in order to limit or restrict, the overall profitability of the project. Under the OCE proposal, small and residential projects are given a 10 year qualification life; large private projects are given an 8 year qualification life; and large public systems are given a 10 year qualification life.

OCE appropriately recognizes that there will be some transition issues associated with projects that were funded under the prior rebate process. The primary issue being that these projects will able to secure a windfall under the new SREC/SACP levels. OCE has provided a primary and alternative recommendation for dealing with this issue. The primary recommendation is to give all small/residential, as well as large/public projects funded prior to 2008 a qualification life of five years. The qualification life for large/private projects funded prior to 2008 would be four years. The alternative, for which OCE is seeking comment, is to define a separate life for the year in which each system was installed. Thus, SRECs from projects developed in 2003 would have one fixed qualification life; those developed in 2002 would have a separate qualification life period, etc.

6.2. Positive Aspects of the OCE Strawman Proposal

OCE has also proposed that the Board consider developing a community-based system to achieve potential economies of scale. Rate Counsel believes that as a general principle, this would be an good idea which combines the best opportunities associated with two important policy goals that were discussed earlier in our comments.

First, in terms of fairness, this type of proposal would allow residential and small business customers the ability to pool their resources for developing solar resources in their own community. This would give those customers an opportunity to support solar energy that otherwise might be unable to do so due to the geographic location or elevation of their properties or economic situations.

Second, in terms of efficiency, a larger community-based system would allow small customer groups to achieve economies of scale associated with larger systems. The lower unit costs would help drive down the overall costs of meeting the solar energy resource requirements in the current RPS benefiting all customers. However like the new construction program, Rate Counsel would suggest a separate proceeding to explore these issues and the numerous policy and implementation issues associated with the development of this program.

Rate Counsel also supports, in principle, OCE's proposal to restrict potential windfalls for older solar projects installed under the prior rebate/SREC regime. As we noted earlier in our comments, Rate Counsel believes that some recognition needs to be made for those solar energy projects developed under the existing market structure and specifically the current solar energy rebate program. These projects were developed under the expectation that a combination of electricity savings, rebate support, and SRECs would provide the basis for the necessary internal rates of returns and paybacks needed to encourage the development of these resources. SRECs prices have reflected this combined support. However, moving to a market model that rests more fundamentally on performance and SREC revenues could result in a windfall gain for many of these projects and would be contrary to at least the understood terms and conditions for their development.

Rate Counsel is not convinced by the arguments offered by the solar industry that changing the nature of the SRECs available to these older legacy projects would send a chilling effect regarding solar capital investments, provided that the change makes these systems whole for the terms and conditions under which they were originally developed. It should not be the case that modifying the nature of the SREC revenue stream available to these older projects should impact future investment decisions provided that those streams continue to make those older projects whole under the same considerations upon which they were developed.

It is clear from the OCE proposal that their intent is to find a solution that makes these projects whole, yet at the same time constraining their opportunity to earn a windfall gain. OCE has primarily proposed to do this through limiting the qualification life for these projects for a uniform period of time. OCE also has an alternative proposal to stagger the potential qualification lives by setting a SREC qualification life for each year of the program.

While Rate Counsel generally does not support the idea of qualification lives, we do support OCE's proposal to vintage, at least in some form, older installations developed under different support mechanisms. We think that the spirit of OCE's intent, however, would be better served by attempting to set vintage lives per year of installation rather than one fixed period for all pre-2008 installations. It is more than likely the case that, in order to achieve the necessary IRR and payback assumptions implicit at the time of installation, some schedule will need to be developed in order to make these installations whole.

Another potential option for Board consideration would be to cap the value of the SRECs from these legacy systems but not necessarily their lives. This potential proposal would allow these legacy systems to continue to secure some SREC revenues over the remaining life of the project. Discounting the value of the SREC, rather than limiting its life, would send some positive signal to maintain the value of these legacy systems, and would provide them with some additional opportunities to earn revenues, which could, in fact, exceed the amount originally anticipated at the time of those systems' installation.

Rate Counsel is not opposed to allowing systems to earn extra SREC revenues based upon the performance of those systems over longer periods of time. What Rate Counsel opposes is these systems earning excess revenues for reasons that have nothing to do with their performance, configuration, or investment decisions. As a general principle, Rate Counsel believes that the Board needs to move away from a system of guaranteed financial support and towards one that is based upon performance where those systems performing at levels greater than expectations are allowed to earn additional rewards for their efforts, and those operating at levels less than expectations receive less than what may have been projected for them. Rate Counsel believes utilizing financial support mechanisms of this nature would be better use of ratepayer societal benefit charge ("SBC") funds.

6.3. Negative Aspects of the OCE Proposal

The OCE proposal has a number of shortcomings, the most important of which has to do with what Rate Counsel sees as an inconsistency with one of the guiding principles discussed earlier in our comments which is policy certainty. Rate Counsel believes that OCE's proposal, which would set a fixed schedule of administratively-determined prices, without any form of contracting for resources, will do little to alleviate market concerns about regulatory uncertainty. Thus, the

proposal fails to address one of the most common and well-recognized issues discussed throughout the course of this debate, and that is finding an effective means of producing long term certainty for solar energy projects.

It would appear that OCE is attempting to use the eight-year period of fixed prices as some means to inject the certainty the market needs to develop projects. While setting prices for a fixed period of time may appear to help, it will ultimately fail since this fixed schedule of prices will be both an ineffective and inefficient means to provide longer-term certainty to the market. These fixed prices will be ineffective because there is nothing contractually to guarantee their existence eight years into the future.

These fixed prices are also inefficient because they will be administratively-determined and not set by market forces. As we noted earlier, the history of utility regulation over the past twenty years is replete with examples of the inefficiency of administratively determined prices. The comments that the Board took during the public hearing provide simple, real-world proof of the inadequacy of the current schedule of prices proposed under the OCE strawman. If anything, setting SACP levels every year has the potential to set up a potentially litigious, but clearly contentious, annual process of fighting over who is right, and who is wrong in determining the appropriate level of financial support for solar development. This in and of itself cannot help facilitate an environment of regulatory certainty for financial investors and others dedicating capital to New Jersey solar energy.

The inefficiency associated with administratively-determining SACP levels was painfully obvious in the comments of virtually every representative from the industry who participated in the June 6, 2007 public workshop in Newark. These representatives clearly noted that the eight-year schedule of prices proposed in the OCE strawman were considerably too low. Further, Summit Blue noted in their report that the current rebate mechanism sets rebate levels at rates considerably in excess of the IRRs needed to bring resources to the market. Given these two considerable and on-point examples of the inadequacy of administratively-determined prices and levels of financial support, the Board should reject any further attempts to follow this type of policy direction, particularly when the stakes and commitments for solar energy increase considerably in future years.

Rate Counsel also questions the logic of setting these qualification periods at periods which (a) are shorter than the assumed payback periods and (b) are shorter than the eight-year fixed schedule of SACP rates that are purportedly developed to create some certainty to the market. For residential customers, qualification lives are set at 10 years, while paybacks are assumed to be longer at 12 years. The mismatch between qualification lives and paybacks is two years which means that a household's ability to use SREC revenues to payback its solar project is truncated by two years. SACP prices which supposedly help

"secure" this project are set for eight years, which is two years shorter than the qualification life, and four years shorter than payback.

Rate Counsel completely disagrees with the use of qualification lives, but would note that even if they are used, they ought to be consistent with the assumed paybacks inherent in the financial assumptions. We also disagree with the proposal to set an eight-year fixed schedule of SACP values and would note that the mismatch makes what is already a questionable method of securitization even more questionable and uncertain. This mismatch shows the danger in repeated attempts to fine-tune, manage, calibrate, and tinker with these solar energy markets.

The use of qualification lives to finely tune returns in the solar energy markets also puts the Board's solar RPS set-aside requirements at risk. If projects are given relatively short qualification lives, then they will have to be "retired-out" of the solar energy requirements needed in future years. So hypothetically, if 100 MWs of solar are needed in 2008, and all of this capacity has a 10 year qualification life, the 2018 requirements will have to be reduced by 100 MWs or else the effective increase in solar energy requirements will have to be increased in that year. Figure 5 below provides a more specific example of this problem. The figure shows the additional capacity that will be needed to replace the capacity that will be retired as a result of the qualification life.

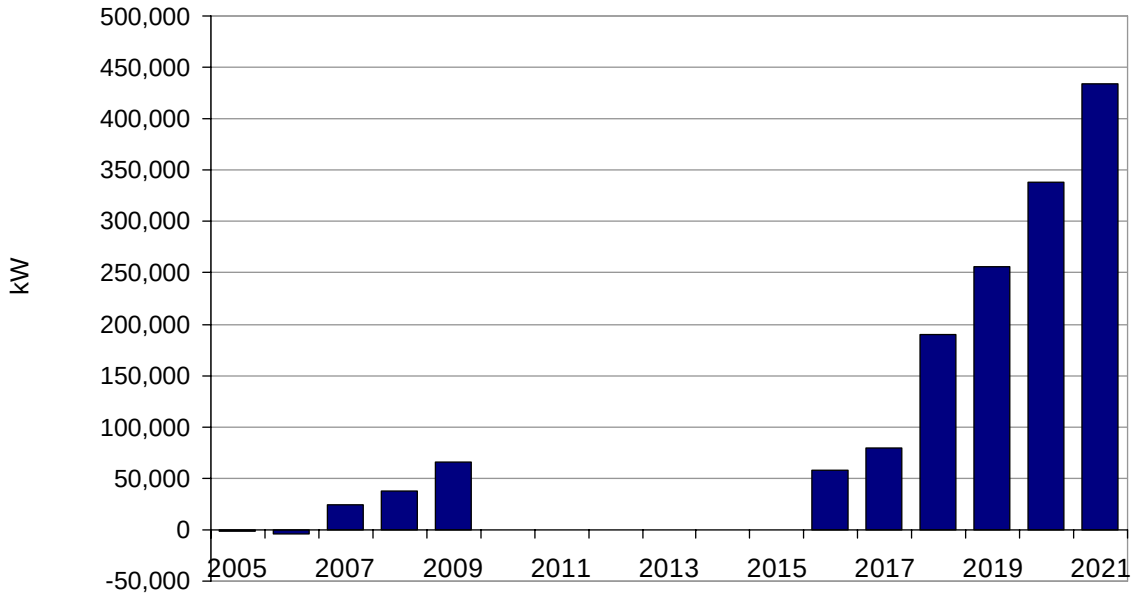

Figure 5: Additional kW Needed

Most importantly, qualification lives provide no incentives to maintain the long-run viability of New Jersey's solar energy markets. If a project is only given a fixed 10 year life, the incentives to maintain the project are reduced and the resource could easily be abandoned or moved to another state where the income earning

opportunity is preserved. Typical energy projects, like a traditional power plant, do not have qualification lives, and neither do other renewable energy projects like biomass or wind energy. Thus, establishing qualification lives for solar energy projects would represent a considerable inconsistency relative to other types of generation projects in traditional or alternative energy markets.

Consider an example where a generation project has an operating life longer than its allowed tax life. These projects can earn additional income from which to reward the developers of the capital. Putting a qualification life on a project to match its tax life would be analogous to telling a natural gas-fired unit that it could no longer make power sales after the end of its 25 year tax life. Making unnecessary limitations like this on solar energy projects decreases generation availability (liquidity) in the market which increases ratepayer costs. In the case of solar, increasing the meaningful life of an asset will mean: (a) reduced on-site power costs where the project is located; (b) reduced need to develop new replacement generation resource; and (c) ongoing low-cost SRECs for the market.

The last, significant uncertainty included in the OCE strawman concerns the nature of the proposal itself. The early discussion introducing the OCE proposal notes its "flexibility" in being readily adaptable to other types of market structures like a tariff-based system or any underwriter model. Rate Counsel does not see this aspect of the proposal market design as a benefit, and in fact, it could prove to be a liability in the sense that it raises questions about additional market changes.

Rate Counsel would request that if the current OCE strawman proposal is in fact intended to be an interim market design that will be used until a more attractive alternative can be implemented, then a very clear and specific policy statement to this affect, with Board approval, should be made. Failure to do so, in our opinion, would create long run policy consistency issues and uncertainty which ultimately raises the cost of delivering solar energy to the market.

6.4. Rate Counsel Recommendations Regarding the OCE Proposal

Rate Counsel recommends that the Board reject the OCE strawman proposal and instead develop an Auction Model approach which would secure a lower cost, and lower risk, market design framework for solar energy than that proposed by OCE. Generally, Rate Counsel believes that OCE's strawman proposals would be adverse for ratepayers because:

- The OCE strawman creates regulatory risk that will increase costs to ratepayers for the delivery of solar energy required under the RPS.
- The OCE strawman creates regulatory risk that will jeopardize the potential amount of solar energy capacity that needs to be developed to

meet the RPS requirements. New Jersey is already behind its annual solar energy target requirements and this policy runs the risk of setting solar energy development back further. This places an increased regulatory liability on ratepayers that could result in significant rate shock and loss of rate continuity.

- The OCE strawman will result in increased costs to ratepayers due to an inefficient program design that rests too heavily on administratively determined prices and micro-regulation and not market forces.

7. CONCLUSIONS AND RECOMMENDATIONS

Rate Counsel appreciates the opportunity to comment to the Board on the future market design for the promotion of solar energy in New Jersey. We believe this is a very important issue for ratepayers since the costs of any market design that could be adopted by the Board, could be in excess of $3.5 to 4.0 billion in NPV terms.

Solar energy markets over the last year in New Jersey has been marked by increasing uncertainty. Rate Counsel urges the Board to make a definite decision in this matter to reduce the uncertainty. Continued piecemeal approaches will do nothing but create greater uncertainties, increase costs, and unwind the solar energy development efforts and progress which have been supported by New Jersey ratepayers.

Rate Counsel recommends that the Board adopt an Auction Model market design for solar energy development but one modified to allow long term contracting for an average contract portfolio of 15 years. Rate Counsel believes this model is the most appropriate since it:

- Creates a transparent market process for bidding solar energy resources.

- Eliminates uncertainty by creating a contract-based framework to securitize solar resource development.

- Reduces transaction costs by minimizing the need for middle men and aggregators.

- Harnesses competitive market forces by forcing efficiency through competitive bidding. Only the least-cost resources will be selected in an auction process.

- Reduces the administrative pressures in setting current period or multi-year SACPs.

- Establishes a market model framework that is consistent with the Board's existing process of securing traditional generation resources (i.e., the Basic Generation Service or "BGS" market)

- Allows for a balanced portfolio of different project sizes and different project contract durations which should assist in minimizing and stabilizing solar energy prices.

- The Auction Model was estimated by Summit Blue as having the lowest policy variance of any market design under consideration. This indicates less market design risk to ratepayers.

- Most importantly, the Auction Model was estimated by Summit Blue as being the lowest cost market design model for which the Board has clear regulatory authority. This is the least cost model to ratepayers at the current time.

An Auction Model based upon Rate Counsel's recommendations eliminates the uncertainty in the current market structure (rebate/SREC model) by creating contractual obligations for winning least cost bids. The model balances intertemporal benefits and costs by allowing for longer term contracts that range from 10 to 20 years. A well-crafted Auction Model would encourage efficiency, since bidders would have to compete for the opportunity to serve New Jersey solar markets. This model, coupled with a performance-based rebate program for smaller projects, would help assure that only least-cost, efficient solar energy resources were being developed in New Jersey and receiving the generous support being provided by its ratepayers. An auction-based model should be an efficient and prudent use of ratepayer-supported financial support as long as the auction rules are drafted to accomplish the correct ends.