

The top of the page features a blue banner. On the left, the words "New Jersey" are written in a white, serif font. To the right of the text is a graphic showing a stylized white outline of the state of New Jersey, a bright sun with rays, and several rows of blue solar panels.

COMMENT SUMMARY

New Jersey Renewable Energy Solar Market Transition Straw Proposal

New Jersey Board of Public Utilities, Office of Clean Energy

July 3, 2007

By Order dated January 19, 2007, In the Matter of the Renewable Portfolios Standard, Docket No. EO0600744, the Board initiated a proceeding and stakeholder process regarding Alternative Compliance Payment (ACP) and Solar Alternative Compliance Payment (SACP) levels for energy years 2009 and 2010 or longer. OCE prepared and circulated a straw proposal for consideration and comment as part of this proceeding. Hearings were held in Newark on June 6th at the BPU Board Hearing Room and in Trenton on June 7th at the DOP Board Hearing Room regarding the January 19, 2007 Order Docket No. EO06100744 IMO RPS – Recommendations for ACP and SACP for Energy Year 2008 and ACP and SACP levels for Energy Year 2009 and 2010 or longer, and the Solar REC-only Pilot.

Following are the comments received via email to oce@bpu.state.nj.us. Responses and rebuttals to these comments may be submitted to oce@bpu.state.nj.us by July 16, 2007 with the Subject line Rebuttal to Comments Submitted on the ACP/SACP Proceeding.

Comments On OCE “Straw Proposal” And Input To The
SACP Proceeding As Requested In The Board Order “In
The Matter Of The Renewable Energy Portfolio Standard”
(Docket EO06100744)

Originally Published: June 13, 2007
This Revision: Original

Mark Warner
President & CEO
(908) 782-4172
mark@sunfarmnetwork.com



New Jersey's Solar Power Companysm

Executive Summary

The board is currently considering a profoundly important package of far reaching policy decisions for the Clean Energy Program. If the outcomes are appropriate, the August order will lay a strong foundation for meeting the RPS over the next 15 years through a more market oriented, performance based model focused on encouraging competition. If done right, NJ can once again become a national leader in solar market growth. If critical problems with the current straw proposal are not addressed, however, the current breakdown evident in the industry will continue and meeting the solar RPS goals will be at serious risk. **We have already reviewed the straw proposal with several investors, and they have confirmed that they would NOT be investing in NJ solar projects under the terms proposed in the straw.** We offer the following comments in the hope of ensuring that the straw proposal can be amended to provide a workable market foundation for the planned August order.

- 1) **Economics:** the economics in the straw proposal are WAY off – almost by a factor of two. If that fundamental problem is not addressed in the final order, none of the other details will matter. The board has the flexibility to structure the RPS incentive a lot of different ways, but under any scenario the **10% NPV has to be about \$450/SREC**. That will support a relatively diverse market (both large and small projects, across multiple segments) and the emergence of third party financing support (critical for not-for-profits, public projects, and less affluent customers). This is actual SREC value capture for a project, and the associated SACP would have to be higher. Implicit in the NPV representation of these economic goals is the recognition that SACP level and qualification term are intimately linked and SREC-value/SACP levels **MUST** be set based on a specific qualification term assumption. The following more detailed comments recommend SACP levels. These proposals are consistent with the Summit Blue proposal of a commercial IRR target of 12% to achieve the required adoption.
- 2) **Qualification Term:** Regardless of economics, there are a lot of good reasons why the board should not introduce the new concept of qualification term – especially since the current rule imposes no such limits. But if term limits are going to be introduced, then the term needs to be much higher than proposed in the straw. **Industry**

- consensus is that qualification term, if implemented at all, needs to be 15 years at least, rather than the 8 years proposed.** While the qualification life concept can provide some valuable flexibility, it also introduces some critical new problems - like how to deal with the impacts on the RPS requirements.
- 3) **Treatment Of Legacy Systems:** The staff straw proposal to cap legacy systems with a VERY short qualification life has the entire market in shock. Regardless of whether the economics are fair relative to current expectations, this action is convincing the entire market (especially the financial players) that the NJ program is prone to unpredictable high impact changes. The negative impact of this decision on regulatory risk perceptions and trust in the program's direction is enormous. If legacy-system limits are going to be imposed retroactively, however, that blow can be softened if the term limits are increased significantly above what was proposed in the straw.
- 4) **Securitization:** The multi-year SACP schedule proposed in the straw is a VERY good thing, and there is universal support (and positive acknowledgment) for including it in the final order. At the same time, this is only a first step - a "soft approach" to securitization that helps significantly, but is not sufficient to "take to the bank". The multi-year schedule should be seen as a first step (relatively free and easy) toward reducing long term risk, but there needs to be additional work on real securitization that a) maintains a competitive market and b) properly allocates risk. We recommend that the final order commission an additional proceeding to specifically look at what, if any, additional securitization is needed and how it can be provided.
- 5) **2-Yr SREC Life:** this is extremely important and should be included as part of this order. The current framework (1-yr SREC life) means that the market has to hit the RPS goal EXACTLY every year - otherwise there will be significant losers (either people holding unsold SRECs, or a short market that drives up price and SACP payments). With a 2-yr SREC life, the market can buffer over/under conditions a little every year, and "even out" the "market balance bumps" that always exist in a competitive commodity market. This reduces risk.

Given the above recommendations for economics and qualification term, we recommend a framework that a) includes a 10-year SACP schedule, b) sets an goal of SREC market value of \$700/SREC in the first year, declining at 3% a year thereafter, c) which implies a first year SACP of \$800-\$850, d) that qualification term limits, if imposed at all, should be at least 15 years, and that e) the board commission a subsequent proceeding to consider and adopt additional securitization methods. This structure provides a SREC value of approximately \$450/SREC (10%-NPV), and an IRR of around 12% for large tax advantaged commercial projects, consistent with Summit Blue recommendations. NPVs for smaller or less tax-advantaged projects will be considerably lower, but could be compensated for via rebates.

Finally, it will be important that the August order be decisive and clear, and remove many of the ambiguities (i.e., the seemingly eternal "model debate") that are seriously damaging market development. This proceeding will establish the basic economics and most of the framework for the "new RPS world", and hopefully lay the foundation for potential tweaks and enhancements that might follow. It will be CRITICAL to clarify that such ongoing adjustments (like additional securitization, if considered) will ADD TO the RPS framework being established in August, NOT REPLACE IT. Otherwise, the new framework will be seen as an interim solution and current market stall conditions will continue. The goal should be to leave the door open to further discussion about program enhancements, without creating concerns that the August order is just temporary.

In conclusion, the straw framework, if implemented as proposed, would significantly harm the nascent solar industry in NJ, and would also have broader negative implications for the emerging regional market for renewable energy. Perhaps more importantly, the proposed framework will damage the state's ability to meet its own RPS goals. Fortunately, the deficiencies of the straw proposal are easily addressable, and it provides a solid structure if augmented with corrected details. If the final order is improved as proposed in these comments, it will enable an innovative and market-leading RPS framework that reduces dependence on rebates and creates a competitive market that can meet RPS goals at the lowest possible rate payer cost. We strongly urge the board to enact the needed RPS changes with the August 1 order, but to make the changes needed - especially in the areas of economics and qualification term limits.

Introduction

The solar energy market in New Jersey is planning a transition from a system dominated by public rebate incentives to a focus on recurring production revenues derived from the Renewable Portfolio Standard. As part of this transition, the NJ Board Of Public Utilities is considering a variety of long term market models, evaluating how to accomplish the needed market transition, and considering what changes are needed to the Solar Alternative Compliance Payment (SACP) in the short term. Specifically, the board ordered a proceeding to set the SACP and address related questions that are material to that decision (Docket EO06100744).

Sun Farm Network has previously provided input on this matter, prior to the publication of the “Straw Proposal” published on May 25th, 2007, in written comments provided on May 16th, 2007. We also provided public testimony on this straw proposal at the BPU hearing on June 6th, 2007 in Newark. That testimony is contained in Attachment A. The following more detailed comments represent our formal stakeholder input to the proceeding, and elaborate on the high level testimony already provided. The following comments focus on the content in the straw proposal, but exclusively on these questions as they relate to the solar industry (and the SACP and solar component of the RPS). Note that all of the following positions are conceptually consistent with detailed comments previously provided (on 5/16/07), although they have been adjusted to respond specifically to the details provided in the 5/25/07 straw proposal.

Disclosure: We are actively involved in the existing SREC market, and have been offering financed-based solar solutions in NJ since early 2003. The following comments represent those of the Sun Farm Network, based on our experience in the SREC market, and especially our experience attracting investment to the solar market in NJ.

Items of Merit

Although there are some significant issues with the straw, there is also much to applaud in the May 25 proposal. The overall structure is sound and workable, although as noted below some of the specifics are incorrect. But the proposed structure is a good starting point for the overall market migration mandated by the board. Several items of particular merit include:

1. The proposed framework builds effectively on the existing market structure, and leverages the last six years of market experience. This is a good thing.
2. The proposal wisely includes a continuation of rebates for small projects past 2008, which we would propose cover all projects up to 40KW or 100KW. This approach gives the board a very flexible two part incentive structure: SRECs for all projects, but rebates for the smaller projects to level the economic playing field.

3. The proposal is based on a single SREC class structure – which we encourage as a sound market development approach. But the proposal also introduces a variable qualification term methodology for addressing economic differences across different types of projects. While this approach gives the board flexibility for dealing with multiple contingencies, it also introduces some new problems that must be addressed. If qualification term limits are introduced, a) the proposed short qualification life terms are way too short, and b) other new problems introduced by this solution (see detailed comments below) must also be addressed.
4. Of all the concepts in the straw, perhaps the most important is the proposal to implement a long term multi-year SACP schedule. This approach to “soft securitization”, while not addressing the securitization need entirely, is a significant step forward for this RPS framework. Most importantly, a long term SACP schedule helps increase investor confidence and planning visibility – which are the crucial ingredients for making this RPS framework effective. We strongly encourage the board to include this long term multi-year schedule in the final order.
5. We were very pleased to note that the straw proposal specifically referred to the need for additional securitization methods. We appreciate that the board is making these transition decisions in stages, and that the current focus is on changing the SACP and related economic factors. It should be emphasized that although the multi-year schedule is a very welcome starting point, it is not sufficient to secure financing without paying a significant risk premium. Once this new RPS framework is established with the August order, we encourage the board to commit formally to a follow-on proceeding that will SPECIFICALLY address the securitization issue in detail.
6. We also applaud the Community Solar proposal, since as noted in the straw, this has the potential to both expand the market and reduce costs.

We strongly encourage the board to retain these positive items of the proposal, and where possible strengthen or expand them consistent with other changes needed.

Economics

The May 25 Straw proposed key financial factors that will directly affect solar project economics and market adoption. Getting these economics right are the single most important aspect of the entire proceeding. The economics proposed by staff are wildly off the mark, and do not incentivize the capacity needed to meet the RPS goals. Given the independent analysis completed by Summit Blue, and the extensive input provided by industry prior to the straw, we were very surprised to see an OCE proposal that contrasted

so sharply with most of this input, and which is in fact out of step with market reality by nearly a factor of two.

The August board order must include significant improvements in the economic factors proposed by staff in the straw. Financing programs, in particular, are extremely unlikely to emerge based on the economic factors proposed in the straw. In summary, the economics proposed in the straw will cause significant harm to the nascent solar industry in NJ, and will also have broader negative implications for regional development of renewable energy markets. Given the relatively sound structure proposed in the straw framework, however, we believe these deficiencies are correctable, as detailed in the following comments.

Most importantly, the combined impact of the SACP level and shockingly short qualification term leave projects with unacceptably low returns on investment, and therefore those projects – particularly financed projects – simply won't happen. It is important to note that when setting economic policy goals (such as payback interval or IRR) the full "food chain" of the project must be considered. The project developer and the end customer must both see an economic incentive (i.e., profit) within a reasonable time frame, EVEN AFTER cost of capital has been served. For example, setting a 10-year IRR that is equal to the cost of capital implies that the end customer doesn't see ANY economic benefit until after 10 years! Setting the policy level goals must include proper consideration of the entire value chain, and the goals frequently cited by staff do not reflect these needs – particularly the impact of the cost of capital. It should be noted that financing will become an even more dominant consideration in the proposed RPS framework (given minimal or zero rebates), and cost of capital considerations have to be accounted for in the IRR policy goals. This is why our feedback has been that even the 12% IRR goal cited by Summit Blue is an absolute minimum, since third-party cost of capital for these projects has consistently been above 10%.

The Summit Blue analysis specifically addresses these requirements, and industry concurs with their recommendations of an IRR of around 12% for commercial projects, which equates to a payback of approximately 6 years. The staff proposal was based on a payback of 12 years, which is not commercially viable ESPECIALLY if third party project finance is involved.

In addition, it is critical to note that SACP schedule and qualification term (if limits are imposed) must be considered together. One can not be set without also specifying the other. The following comments will consider both SACP schedule and qualification term assumptions, with a preference for considering SREC value on an NPV basis. Industry has provided extensive input previously on required economics, including project proformas that are consistent with the Summit Blue analysis. Summarizing several previously provided data points:

- The EXISTING NJ-BPU incentive structure for a 50Kw large project, based on a combination of rebates and SRECs for 20 years is a **10% NPV of \$435/SREC** (if converted to a SREC only basis). In this case 67% of the incentive is delivered at

the point of construction at virtually zero risk via rebate. The NPV of a predominantly RPS based incentive – which stretches over years and carries significant revenue risk – would need to be higher to reflect that risk premium.

- Industry had been united in providing input on the required RPS levels, all assuming qualification terms of 15-20 years, and with **10% NPVs ranging from \$400 - \$450/SREC**. The \$400/SREC NPV will support large (>100KW) commercial projects that are the lowest cost, mostly with affluent corporate customers that can self finance. If the board desires a more diverse market (<100KW) and the emergence of third party financing support (critical for not-for-profits, public projects, and less affluent customers), the economics needs to be closer to a 10% NPV of about \$450/SREC. This is actual SREC value capture for a project, and the associated SACP would have to be higher.
- The Summit Blue analysis recommended economic levels that were far above that proposed in the straw proposal. For the UN-secured SREC market as proposed in this straw, their recommendation was a SREC value that started at \$849 for large private systems, resulting in a **10% NPV of about \$486/SREC over 15 years**. As noted above, these recommendations reflect an appropriate IRR goal of about 12%. We believe the BPU policies should be consistent with the IRRs determined by the independent recommendations provided by Summit Blue.

There is therefore widespread consensus that longer terms are preferred, with recommendations agreeing on a 15-20 year window and an SACP schedule varying between \$700 and \$900 in the first year. In contrast to this well documented baseline, the current straw proposal indicates an SACP starting at \$525 for a shockingly short 8 years. **The staff proposal represents a 10% NPV of \$237/SREC for >10KW private systems, almost a factor of two below the required economic threshold for adoption. The proposed structure is about HALF what is provided by the CORE program today, which benefits from much of that incentive being paid risk-free up front. This proposal is well below the required project IRRs documented in the Summit Blue analysis, and therefore out of step with the independent study commissioned specifically for this proceeding.**

To demonstrate this point, it is worth emphasizing the results of the Phase One SREC Pilot. The board commissioned this pilot in December specifically as a learning exercise, and scheduled it so the adoption results could inform this ACP proceeding. As of June 1, only six projects had applied, five of which were from a single very large energy company with projects all over 500KW. The NPV of the current straw proposal is similar to the NPV customers are considering in the current market based on no rebates but a 20-year SREC stream – **AND THERE HAS BEEN VIRTUALLY NO ADOPTION ON THAT BASIS**. The minimal adoption that has surfaced has been **ONLY** with very large projects. We submit that the results of the phase one pilot clearly demonstrate that the economics associated with the current straw proposal will not be successful, and we urge the board to carefully consider the pilot results in making this decision.

In conclusion, we urge that the August board order improve significantly on the economics proposed in the staff straw recommendation. We strongly recommend an incentive of AT LEAST a \$450/SREC on a 10% NPV, o allow a diverse market footprint and emergence of third party financing (with its associated cost of capital). As noted, qualification term and SACP schedule must be set together. If the economics proposed in the current straw are not improved significantly, the current industry stall will continue and the solar RPS goals will almost certainly not be met.

For convenience, we have provided a table summary of acceptable qualification term and SREC capture schedule assumptions that all result in a \$450/SREC NPV (10%). Note that this is the actual SREC value required to be realized by the project, so **the SACP would have to be higher**. This recommendation assumes a 3% decline in annual SREC value, consistent with the current straw proposal.

Term and SREC Value Combinations That Deliver 10%NPV of \$450/SREC¹

Qualification Term	SREC Value in first year	Annual SREC Value Decline
8 Years	\$922	3%
9 Years	\$863	3%
10 Years	\$817	3%
11 Years	\$781	3%
12 Years	\$751	3%
13 Years	\$727	3%
14 Years	\$706	3%
15 Years	\$690	3%

For example, if the board decides to settle on a 12 year qualification term with an assumed 3% annual decline in SACP, the first year SREC value would need to be at least \$751 to deliver a \$450/SREC 10%-NPV, for which an SACP over \$900 would be required².

Qualification Term

As noted in the economic section above, any combination of qualification term and SACP schedule can work, and it is most important that the overall economics are correct.

¹ The recommended NPV goal of at least a \$450/SREC NPV also assumes that AT A MINIMUM the board establishes a relatively stable multi-year SACP schedule, equal in length to the qualification term. Without at least this minimum “soft securitization”, higher SREC values must be assumed to account for further market risk discounting.

² Note: these recommendations are slightly different than previous input provided by the Sun Farm Network, since we are responding specifically to details provided in the straw. They are approximately economically similar, however. This proposal of 15-years with starting SREC value of about \$700 reflects the OCE assumption of a 3% annual decline. The previous SFN recommendation of \$730 SREC value in the first year was based on a 5% annual decline.

That said, however, there is a very strong preference for much longer qualification terms than those proposed by staff in the straw.

In general, there is strong industry view that qualification term limits should not be imposed, since that represents a fundamental change to the definition of a SREC. As defined in the current RPS rule, a SREC represents a MWHR of renewable generation, and that benefit is provided whether it happens in the thirtieth year of a facility's life or the first. The proposed qualification term limits fundamentally change this definition of a SREC by converting it to an accounting vehicle for project financing. Such a dramatic change in market fundamentals is highly disruptive to orderly market development, and is a severe blow to investor perceptions about the stability of the entire framework.

Previous comments by the Sun Farm Network and others (especially PV NOW) have made this (and other) arguments in detail. While we believe that the qualification term concept introduces some worthy flexibility into the program, it does so at a great cost. Our preference is that the new RPS framework not include qualification term limits.

If such limits are imposed, however, it is critical that they be significantly longer than what was recommended in the straw proposal (8-10 years). There are several reasons that longer terms are in the best interests of the program and the rate payers.

- Shorter qualification terms lead to MUCH higher SACP levels to achieve the required economics. This has a significant political consequence, and creates a significant exposure for the program. Politically, the shorter the term, the harder it will be to achieve the required SACP level needed to deliver the necessary economics. Shorter qualification terms dramatically increase the probability that the RPS goals will not be met, since there will be significant political pressure on the high SACPs required to deliver project economics that create adoption.
- The Summit Blue analysis was heavily based on planning assumptions of IRRs calculated over 15 years, including SREC income over that full 15 year term. On a related note, with the exception of a 5-yr tariff model that has been routinely dismissed as unrealistic, all the models extensively discussed during several working groups since mid-2006 have all looked at SREC qualification terms of 15-20 years.
- There have been numerous recent proposals that clearly documented deeply entrenched market expectations for qualification terms of at least 15 years. The recent PSE&G proposal assumed 15 years, as did a recent RFP for a large project by the Meadowlands commission. Recent legislation to enable financing for NJ schools was predicated on qualification terms of 15 to 20 years. Even with the existing CORE program, the BPU has hundreds of contracts on file that clearly document existing market expectations – particularly for financed projects – of capturing SREC value for 15 to 20 years.

- There are also profound regional development issues at stake, since surrounding states are typically looking at 15 year terms, and their SREC value will be correspondingly lower. Other states developing similar programs (both Maryland and Delaware, for example) are based on terms of at least 15 years. The current staff proposal for much shorter terms will force the NJ SREC market out of step with regional market developments.
- Lower terms, even if the NPV is correct, become problematic in the market since being locked out of the market for even one year of that short term has a correspondingly higher impact on overall project. Terms much below 10 years start to INCREASE the investment risk due to this “single year lock out” potential. Losing SREC revenues one year out of eight is much more harmful than losing one year out of 15. Many investors want to see the qualification term on par with the asset life – which in this case is 20 years or more.
- Beyond all these specific data points, there is a matter of conceptual policy that results in the need for extended terms. Economically, the longer the allowed qualification term the lower the perceived cost of electricity per kwhr and the lower the required SACP. **For solar to compete economically with large power plants which amortize over decades, solar investments must also be able to recover over extended terms.** Mandating shorter payback intervals forces the perceived cost of solar electricity higher, with a resulting need for higher SACP and an associated political “sticker shock”.

Based on all these factors, we urge that the board not only focus on getting the basic economics right, but do so through longer qualification terms – if term limits are imposed at all. If imposed, we want to emphasize that once set, qualification terms for a particular project must be SACRED and unchangeable. If there is any market risk that qualification term could be adjusted for a project once constructed, the entire framework will fail.

Finally, it must be noted that the proposed limits on qualification term introduce significant new problems that must now be addressed by the program. The management, administration, and enforcement of facility retirement (or more precisely, conversion to Class I SREC generation status) is highly non-trivial. More importantly, the question arises as to how this impacts compliance with the existing RPS requirement. When a facility is retired (from SREC generation), does that capacity need to be replaced through a new system installation so that the same number of yearly SRECs are generated? If so, that implies that almost TWICE as much capacity has to be installed to meet the 2020 goal. Staff has suggested that this problem would be addressed by reducing the RPS goals in lockstep with retired facilities, and that this is merely a matter of tracking. IT IS NOT THAT SIMPLE. Most importantly, under this scenario LSEs will have limited visibility on long term RPS requirements, which will make it much more difficult for long term contracting to emerge. Secondly, once a facility stops earning revenue from SRECs it could be decommissioned (for example, a required inverter repair is simply not done), or it could be moved out of state. In these cases, the RPS requirement would have been decremented UNDER THE ASSUMPTION that the facility continues to generate

renewable energy, when in fact continued generation is not certain. Introducing qualification term limits therefore have significantly conceptual and operational problems which would have to be addressed. It is worth noting that these problems are larger and more severe with smaller terms, and reduce with longer term limits. If term limits are imposed, longer term terms would help mitigate the impact of these problems.

Rate Payer Impacts

This decision should be made based on full and careful consideration of the rate payer impacts of the program. When evaluating rate payer costs, however, we believe it important that comparisons be made between the cost of implementing the proposed solar RPS program and the “business as usual” case where those investments are not made and the state continues to depend heavily on increasingly scarce fossil fuel resources. Many cost comparisons for this program are incorrectly made relative to CURRENT costs, when in fact the comparisons should be made relative to FUTURE costs assuming significant increases in the cost of utility-supplied power.

Our models indicate that the cost of the proposed RPS framework would be approximately \$2.7B on a 10% NPV basis³. This translates to an average 0.3 cents/kwhr ratepayer impact over the full retail kwhr-volume for NJ over the period through 2035 (lower in the initial years, higher when the RPS demand reaches its peak). These estimates are consistent with estimates from the Summit Blue analysis, and as noted in that report, could be reduced further if additional securitization is introduced.

For comparison, NJ is projected to spend over half a trillion dollars for electricity over that same period - we estimate approximately \$543B dollars between 2008 and 2035, assuming a 1.5% increase in annual retail load, and a 3% annual escalator in the cost of power, consistent with Summit Blue assumptions. This represents a 10% NPV of about \$145B. **The proposed RPS framework will increase NJ retail costs by 1.8% (on an NPV basis) to achieve a clean, renewable solar capacity increase providing 2% (in 2021) of the retail power.**

It is worth emphasizing that the cost of the proposed RPS framework (using the higher SACP levels proposed in these comments) is only about 0.3 cents per kwhr average over the period to 2035, and potentially less if well securitized. By comparison, all rate payers in NJ saw their electricity rates **increase by several full pennies IN JUST ONE YEAR** (2007 over 2006). Over the last several years rate payers in NJ have experienced double digit growth in electricity costs, driven primarily by the highly volatile and uncontrollable costs of natural gas. Natural Gas fuels approximately 20% of NJ’s in-state generated MWHRS. Much of the new generation capacity planned within the state is also expected to rely on Natural Gas. Although Natural Gas is a relatively clean electricity source

³ SREC costs only, doesn’t consider potential rebates. Assumes \$700 actual SREC value, a declining SCAP level set on a multi-year basis (3% decline per year through 2016, 10% decline through 2021, 20% decline through 2035), at the required RPS volume levels. Assumes a 15 year qualification term, and that the RPS demand is reduced to account for retired capacity (i.e. not replaced through new installations).

(compared to coal), it is becoming extremely expensive, its pricing is highly volatile, and those prices are completely beyond the state's control since it based on a GLOBAL commodity market driven by enormous demand from developing countries AND the supply is ultimately finite.

By comparison, it should be noted that solar electricity is inherently a fixed price source of electricity. Given that its only "fuel" is sunshine, its cost per kwhr is essentially FIXED the day construction is completed. A \$7.00/W system that generates an average 1.1 annual kwhrs/W-DC over its 30-yr life represents a fixed cost of 21 cents/kwhr over that term (not counting minimal maintenance, and not reflecting tax benefits that might apply or any other incentive)⁴. One of solar electricity's most important values is that it is a source of STABLE and PREDICTABLY priced electricity, immune to any fuel or political disruption, and it generates most of its power during peaking periods when conventional supplies are most expensive.

The investment being planned for solar plant in NJ clearly has value as a clean and renewable source of electricity. Given the increasing concerns about international fuel dependence (and the resulting risk of energy scarcity in NJ), and the emerging need to respond to Climate Change, these factors by themselves justify the proposed \$2.7B investment (NPV). But given recent electricity cost trends in NJ, and the increasing dependence on Natural Gas in particular, solar is clearly a LOWER COST source of electricity whose price is both predictable and stable. The combination of these factors make a compelling case for the proposed rate payer investment in this solar RPS framework, and suggest that in fact there will likely be significant economic advantage to the ratepayers by introducing a stable priced solar alternative to continued reliance on rapidly increasing natural gas electricity sources, especially for peaking generation.

Legacy Systems

The straw proposal recommends dramatically limiting qualification term for legacy systems. Consistent with widespread consensus from industry, we believe this would do serious harm to the integrity of the Clean Energy Program, and inflict long term damage on the investment confidence that is most critically needed to make the RPS framework effective and low cost.

All projects currently installed expected to be able to sell their SRECs for an extended term, typically 20 years or more. Customers reasonably made those investment decisions based on program rules then in effect. The straw proposal recommends limiting them to 4 or 5 years. While we understand staff's concern about windfall, and recognize that a solution could be crafted that is economically equivalent with current expectation, THAT IS NOT THE POINT. The fact that the board is making such a

⁴ Unfortunately, NO retail customers will amortize the cost of a solar system over 30 years, hence the critical need for incentives (tax credits, rebates, RPS) at this time. But the numbers noted above reflect the REAL cost of solar power if amortized over its physical life – similar to the basis used for conventional power plants.

dramatic change to the fundamental design of the market, and that those changes are being applied retroactively to already installed systems, destroys all board credibility.

What we need most to make this RPS framework effective is confidence that “stroke of the pen” regulatory changes will not strand investments. With the legacy approach proposed in the straw, the board would be educating the market – especially investors – that they are willing to in fact make exactly the kind of retroactive changes it fears the most. Regardless of economics, the board must consider the extremely negative impact such a dramatic retroactive change would have on building the regulatory confidence the market needs. The proposed legacy treatment will INCREASE perceptions of regulatory risk, not reduce it as is a stated board objective. Ultimately, those increased risk perceptions will increase rate payer burden.

We recommend that legacy system limits not be imposed retroactively. If legacy-system limits are going to be imposed retroactively, however, that blow can be softened if the term limits are increased significantly above what was proposed in the straw.

Securitization

The multi-year SACP schedule proposed in the straw is a VERY good thing, and there is universal support (and positive acknowledgment) for including it in the final order. At the same time, this is only a first step - a "soft approach" to securitization that helps significantly, but is not sufficient to "take to the bank". The multi-year schedule should be seen as a first step (relatively free and easy) toward reducing long term risk, but there needs to be additional work on real securitization especially if financing support (for non-profits, public projects, and less affluent customers) is desired.

There are a variety of securitization methods that could be considered as enhancements to the basic framework being proposed in the straw. Most of the debate about “models” over the last year has been about various ways to implement securitization on top of a basic RPS framework. We believe it appropriate to consider securitization methods that still create a competitive environment for SRECs (to reduce rate payer costs), but also allocate risk appropriately so that the potential for stranded investments to not drive up the costs of (if not eliminate) financing. Several alternatives worthy of consideration include:

1. Enabling and encouraging long term contracting by the LSEs, including needed changes in the BGS to require long term tranches.
2. Enabling and encouraging the emergence of third party intermediaries (brokers/aggregators) that could provide long term contracting.
3. Support for the SREC investment program recently proposed by PSE&G, pending resolution of final details. If this program is successful, it could be expanded to other territories as well.

4. Implement other EDC-based SREC purchase programs, potentially considering standardized long term contracts, or tariff-based SREC purchase programs.
5. Implementation of an underwriter, or similar state-backed “floor price” function.

We urge the board to commission an additional proceeding to determine which securitization method is most appropriate and how it should be implemented, and to subsequently implement it as an ENHANCEMENT (not replacement of) the framework being created with the board order.

Two Year SREC Life

Revision of the RPS rules to allow a 2-year SREC life is extremely important and should be included as part of the August order. The current framework (1-yr SREC life) means that the market has to hit the RPS goal EXACTLY every year - otherwise there will be significant losers (either people holding unsold SRECs, or a short market that drives up price and SACP payments). With a 2-yr SREC life, the market can buffer over/under conditions a little every year, and "even out" the "market balance bumps" that always exist in a competitive market. We strongly urge the board to consider adding 2-yr SREC life as part of the August order.

This dynamic is already apparent in the EY07 and EY08 RPS compliance trends. There was slight oversupply of SRECs in EY07, approximately 31,000 SRECs compared to an expected demand of about 30,000. This balance is a result of the dramatic slowdown of actual capacity deployment within the industry over the last two years, compared to what was being sold. Some view this deployment slowdown as “appropriate”, since it resulted in market balance this year (EY07).

But there is also consensus that there will be significant shortfall in EY08 and an even bigger shortfall in EY09. Given the current installed base, industry would have to install over 100MW in the next 12 months, which is simply not possible. So by slowing down capacity to ensure balance in EY07 (in this case through rebate constriction), we virtually guaranteed significant shortfall (and increased ratepayer cost via SACP payments) in EY08 and EY09. Our models indicate that this dynamic will not only continue but amplify over time, and that the market will oscillate between extreme conditions of oversupply and undersupply. These cycles will be extremely destructive for industry growth and minimizing ratepayer costs. The 2-yr SREC life proposed provides the cross-year buffering needed to avoid these problems.

Other Issues With The Straw Proposal

As noted above, correcting the significant economic problems with the straw proposal is the top priority. There are several other aspects of the straw that also require attention.

1. The proposed block structure for rebates is highly confusing and adds nothing. The primary constraint is the annual budget, and there is no need to add additional complexity beyond simple budget compliance as is current program practice.
2. The entity cap issue is also extremely important, and the proposed caps are highly inappropriate. We believe entity caps should be eliminated entirely within the new RPS framework.

Issues Beyond The Straw

There are several key policy questions which were not addressed in the straw but which should also be part of the August order.

1. The Summit Blue study was commissioned to inform the public debate, but until just recently (last week!), those detailed results were not published. The needed information has now been made available, and it is important that full publication of the model results be made public. In addition, the Summit Blue analysis has not actually assessed the framework being proposed in the straw. We recommend that, for completeness and objective transparency, the Summit Blue analysis be done for the RPS framework being proposed (preferably reflecting the needed improvements noted in these comments and others from industry). These results should be published, and a clear economic baseline established for the RPS framework – especially rate payer costs.
2. The current pilot is set to expire at the end of July, so at the current time there is no way to proceed on new projects under this revised framework. **We strongly recommend that the board immediately allow new projects to begin applying under this new program with the August order.** At a minimum, a phase two pilot should be launched immediately, although this is less preferable than generally opening the market up for unrestricted application.
3. We, and others, have previously recommended that the board consider establishing a bi-directional circuit breaker to improve market balance. Now that the SACP and the multi-year schedule are being established in this proceeding, NOW is the time to also implement this new and important balancing mechanism. Details on this proposal have been provided in previous comments, but we want to emphasize that this is an extremely important component of program design, and it will a) help maintain market balance, and b) potentially, allow the RPS goals to be achieved even faster than planned without increasing rate payer burden.

Risk Aspects Of Decision Making

In considering the profound economic and market design questions inherent in this proceeding, it is worth evaluating the various risks of each alternative in the context of

“what if we are wrong”. At the moment, there is a clear difference between the direction recommended in staff’s straw proposal and the policies viewed as necessary by industry. Our decision between these alternatives should be at least partly influenced by the answer to the question “what is the cost of being wrong if we chose either alternative”? If one alternative imposes relatively minimal harm if in fact it turns out to be “wrong”, that would represent some advantage over another alternative which, if future results prove it was mis-guided, results in significant disruption or damage to program goals.

In considering “right” and “wrong”, we assume that the program goals are to “deploy enough solar capacity to meet the RPS goals, at the lowest possible rate payer cost”. The challenge in this objective is that meeting the “lowest possible cost” goal is extremely hard to know in advance. We recommend consideration of the relative risk factors in helping assess the “unknowable nature” of how well these policy choices will achieve the program goals.

The straw proposal recommends extremely low SACP levels and very short qualification terms, the combination of which result in minimized project economics and IRRs. This is laudable given the goal of lowest possible cost, BUT IF THIS STRATEGY IS WRONG, there will be minimal project adoption. That implies recurring SREC shortfall, the need for the LSEs to pay the higher SACP, and if that trend persists, an eventual challenge to the entire solar RPS goal. In addition, during this period of “limited commercial opportunity” due to weak economics, the industry will not develop, and it may (as is being seen today) actually weaken and decline. Critical commercial assets – such as program reputation and a NJ allocation of scarce PV panels in a very competitive global market – will atrophy. All of these negative implications will be difficult, and expensive, to reverse. The strategy of setting highly conservative project economics, with the goal of minimizing rate payer impact, would actually backfire and INCREASE ratepayer costs if it results in insufficient project adoption and SREC shortfall – in addition to significant industry harm. We therefore consider the risk of adopting the staff proposal very high, since if its assumptions and policy conclusions are incorrect (as will only be proven over time) the market impacts would be highly harmful. In short, the only way we can prove that the incentive structure isn’t working is for the industry to die and the RPS to fail.

By contrast, if the recommendations made in these comments are “wrong” (i.e. too high), too much solar capacity would be built. That would result in SREC oversupply, which would bring SREC prices down naturally through market pressure. The fact that the market is over-incentivized would then become obvious, and the board could then adjust the multi-year SACP schedule downward to create market balance. While it is true that there is a cost to rate-payers due to the fact that the initial SACP were too high, those costs were applied in the early years of the program when the RPS demand is much lower – so the negative impact is inherently bounded. Given the natural market dynamics that will affect SREC prices (and ratepayer cost), combined with the flexibility the board has in managing SREC value moving forward, we believe that the potential harm of adopting a stronger economic structure at the outset is relatively minimal.

Given this risk structure, we believe the board should pursue a strategy that inflicts the least harm if incorrect. That implies adoption of the stronger economics proposed by industry, which can be adjusted down relatively easily (with relatively minimal negative impact) should subsequent market results indicate the need to do so. By contrast, if unacceptably low economics are established and the market fails as a result, significant and irreversible harm will have been done, and an extraordinary effort (increasing the economics) will then be required to recover.

Summary Of Recommendations

The straw proposal provides a good framework for the enhanced RPS market needed to restart deployment of new solar capacity in NJ. Many of the details are significantly off the mark, however, and we urge the board to consider the following recommendations in crafting the expected August 1 board order:

1. The continuation of rebates for small systems (<100KW) is necessary to level the economic playing field across different segments, and should be included.
2. Reinforcing the straw proposal, the long term multi-year SACP schedule should be adopted, although we believe it should be for 10 years.
3. The economics of the proposal need to be corrected, and the setting of the SACP should be linked tightly with concurrent decisions about qualification term. We recommend a framework that a) includes a 10-year SACP schedule, b) sets an goal of SREC market value of \$700/SREC in the first year, declining at 3% a year thereafter, c) which implies a first year SACP of \$800-\$850, d) that qualification term limits, if imposed at all, should be at least 15 years. Whatever the outcome on the qualification term issue, it is crucial that they be increased significantly beyond what was recommended in the staff straw proposal. This structure provides a SREC value of approximately \$450/SREC (10%-NPV), and an IRR of around 12% for large tax advantaged commercial projects, consistent with Summit Blue recommendations.
4. With the same order, we urge the board to commission a subsequent proceeding to consider and adopt additional securitization methods as appropriate.
5. SREC life should be extended to two years to enhance the market's ability to achieve balance and reduce investment risk.
6. Legacy systems should not have qualification term limits imposed. If imposed, however, they MUST be significantly longer than proposed in the straw to help soften the significant customer backlash that will result from such a significant retroactive program change.
7. The block structure proposed for managing rebates is clumsy and unnecessary, and should be eliminated in favor of simple program management based on

- budget compliance, as is current practice within the CORE program. Entity caps should be eliminated entirely for the new RPS framework.
8. The Summit Blue analysis should be redone for the proposed framework (whatever it is), and those results should be clearly published to create a transparent baseline for the program, especially regarding ratepayer costs.
 9. The August order should enable new projects to be accepted under the new framework, preferably by “opening the market up” generally, but if necessary, through an immediate launch of a “Phase Two” pilot.
 10. We urge the board to strongly consider implementation of a bi-directional circuit breaker as previously proposed, if not in this order, than commissioned specifically for a subsequent proceeding.
 11. The Community Solar concept has exception merit, and should be pursued by the board at least to the point of a pilot implementation.

Conclusions

In conclusion, the emerging SREC shortfall makes it clear that new solar projects must be enabled beyond the limits of the current CORE rebate program, and that an SACP change is needed immediately to allow new capacity deployments to begin immediately. The straw proposal provided a good overall framework, but many of the details **MUST** be corrected in the final order or new solar capacity will not be realized and the RPS goals are therefore at risk.

There are a variety of details to address, but the most critical are related to economics and the proposed limits on qualification term. Given the above recommendations for economics and qualification term, we recommend a framework that a) includes a 10-year SACP schedule, b) sets an goal of SREC market value of \$700/SREC in the first year, declining at 3% a year thereafter, c) which implies a first year SACP of \$800-\$850, d) that qualification term limits, if imposed at all, should be at least 15 years, and that e) the board commission a subsequent proceeding to consider and adopt additional securitization methods. This structure provides a SREC value of approximately \$450/SREC (10%-NPV), and an IRR of around 12% for large tax advantaged commercial projects, consistent with Summit Blue recommendations.

The rate payer impact of the proposed RPS program is modest – about 0.2 cents/kwhr average over the term of the program, far less than natural increased in utility power costs that have resulted from the current dependence on non-renewable resources. Our analysis indicates that solar power will provide a **STABLE** and **PREDICTABLY** priced source of electricity, and will probably provide significant ratepayer economic advantage (relative to the investment) compared with continued dependence on fossil fuels, especially natural gas.

Without these urgently needed changes in the NJ incentive environment, the current industry stall will continue and the shortfall in the SREC supply (relative to RPS goals) will grow to the point of putting the overall RPS commitment at significant risk. Once these changes are made, we recommend that the Board immediately open up the market (or launch a Phase Two Pilot) so that these new market conditions can translate into new project commitments ASAP. These essential changes should be implemented immediately consistent with the scope of the current proceeding (Docket EO01100744). Additional enhancements, potentially including support for additional securitization, can be considered and added as part of the longer term market design proceedings.

Attachment A: Mark Warner Testimony, June 6th, 2007

Note: the following verbal testimony was provided based on an initial review of the staff straw proposal that had just been released, and represents a snapshot of proposal analysis still underway at that time. Although conceptually consistent, subsequent consideration and analysis has resulted in further refinements of position that are included in our written comments. To the extent there are any inconsistencies between the following verbal remarks and our written comments, our written comments should be considered authoritative.

Good afternoon Commissioner Fiordaliso and BPU staff. Thank you for the opportunity to provide input on this extremely important matter, and for the analysis and public discussions that have taken place over the last six months. My name is Mark Warner, and I am the CEO of the Sun Farm Network, one of the largest and most active solar development companies in the state. I am also the VP for Mid-Atlantic SEIA representing NJ. We are actively involved in the existing SREC market, and have been offering financed-based solar solutions in NJ since early 2003. The following comments represent those of my company, based on our experience in the SREC market, and especially our experience attracting investment to the solar market in NJ.

With your permission Commissioner, I would like to focus my verbal comments today only on the most critical items. We will then provide more detailed written comments, addressing other issues of importance, by June 22.

The board is currently considering a profoundly important package of far reaching policy decisions for the Clean Energy Program. If the outcomes are appropriate, the August order will lay a strong foundation for meeting the RPS over the next 15 years through a more market oriented, performance based model. If done right, NJ can once again become a national leader in solar market growth. If critical problems with the current straw proposal are not addressed, however, the current breakdown evident in the industry will continue and meeting the solar RPS goals will be at serious risk. **We have already reviewed the straw proposal with several investors, and they have confirmed that they would NOT be investing in NJ solar projects under the terms proposed in the straw.** We offer the following comments in the hope of ensuring that the straw proposal can be amended to provide a workable market foundation for the planned August order.

Items Of Merit

Although there are some significant issues with the straw, there is also much to applaud in the May 25 proposal. The overall structure is sound and workable, although as noted below some of the specifics are incorrect. But the structure proposed is a good starting point for the overall market migration mandated by the board. Several items of particular merit include:

1. The proposed framework builds effectively on the existing market structure, and leverages the last six years of market experience. This is a good thing.
2. The proposal wisely includes a continuation of rebates for small projects past 2008, which we would propose cover all projects up to 40KW. This approach gives the board a very flexible two part incentive structure: SRECs for all projects, but rebates for the smaller projects to level the economic playing field.
3. The proposal is based on a single SREC class structure, but introduces a variable qualification term methodology for addressing economic differences across different types of projects. This approach gives the board great flexibility for dealing with multiple contingencies – including future market changes – while retaining a simple single class SREC structure. Although this is an interesting and flexible tool, it represents a significant change in the definition of a SREC and introduces some profound issues that will have to be addressed as a result.
4. Of all the concepts in the straw, perhaps the most important is the proposal to implement a long term multi-year SACP schedule. This approach to “soft securitization”, while not addressing the securitization need entirely, is a significant step forward for this RPS framework. Most importantly, a long term SACP schedule helps increase investor confidence and planning visibility – which are the crucial ingredients for making this RPS framework effective.
5. Finally, we were very pleased to note that the straw proposal specifically referred to the need for additional securitization methods. We appreciate that the board is making these transition decisions in stages, and that the current focus is on changing the SACP and related economic factors. It should be emphasized that although the multi-year schedule is a very welcome starting point, it is not sufficient to secure financing without paying a significant risk premium. Once this new RPS framework is established with the August order, we encourage the board to commit formally to a follow-on proceeding that will SPECIFICALLY address the securitization issue in detail.
6. We also applaud the Community Solar proposal, since as noted in the straw, this has the potential to both expand the market and reduce costs.

We strongly encourage the board to retain these positive items of the proposal, and where possible strengthen or expand them consistent with other changes needed.

Problems To Be Addressed

The May 25 Straw proposed key financial factors that will directly affect solar project economics and market adoption. **The economics proposed by staff are wildly off the mark, and do not incentivize the capacity needed to meet the RPS goals. Given the independent analysis completed by Summit Blue, and the extensive input provided by industry prior to the straw, we were very surprised to see an OCE proposal that**

contrasted sharply with most of this input, and which is in fact out of step with market reality by nearly a factor of two. The August board order must include significant improvements in the economic factors proposed by staff in the straw. Financing programs, in particular, are extremely unlikely to emerge based on the economic factors proposed in the straw.

Most importantly, the combined impact of the SACP level and shockingly short qualification term leave projects with unacceptably low returns on investment, and therefore those projects – particularly financed projects – simply won't happen. It is worth noting that there is widespread consensus that the generation term should be approximately 15 years, as evidenced by the following previously provided input:

- The EXISTING NJ-BPU incentive structure for a 50Kw large project, based on a combination of rebates and SRECs for 20 years is a **10% NPV of \$4.35/W-DC**. In this case 67% of the incentive is delivered at the point of construction at virtually zero risk. The NPV of a predominantly RPS based incentive – which stretches over years and carries significant revenue risk – would need to be higher to reflect that risk premium.
- Industry had been united in providing input on the required RPS levels, all assuming qualification terms of 15-20 years, and with **10% NPVs ranging from \$4.00 - \$4.50/W-DC**.
- The Summit Blue analysis was heavily based on planning assumptions of IRRs calculated over 15 years, including SREC income over that full 15 year term. For the UN-secured SREC market as proposed in this straw, their recommendation was a SREC value that started at \$849 for large private systems, resulting in a **10% NPV of about \$4.86/W-DC over 15 years**. On a related note, with the exception of a 5-yr tariff model that has been routinely dismissed as unrealistic, all the models extensively discussed during several working groups since mid-2006 have all looked at SREC qualification terms of 15-20 years. Finally, the Summit Blue analysis recommended an IRR of 12% for large commercial projects, which in prior comments, industry had supported as about right although very thin for financed projects. We believe the BPU policies should be consistent with the IRRs determined by the independent recommendations provided by Summit Blue.
- There have been numerous recent proposals that clearly documented deeply entrenched market expectations for qualification terms of at least 15 years. The recent PSE&G proposal assumed 15 years, as did a recent RFP for a large project by the Meadowlands commission. Recent legislation to enable financing for NJ schools was predicated on qualification terms of 15 to 20 years. Even with the existing CORE program, the BPU has hundreds of contracts on file that clearly document existing market expectations – particularly for financed projects – of capturing SREC value for 15 to 20 years.

There is therefore widespread consensus that longer terms are preferred, with recommendations agreeing on a 15-20 year window and an SACP schedule varying between \$700 and \$900 in the first year. In contrast to this well documented baseline, the current straw proposal indicates an SACP starting at \$525 for a shockingly short 8 years. **The staff proposal represents a 10% NPV of \$2.37 for >10KW private systems, almost a factor of two below the required economic threshold for adoption. The proposed structure is about HALF the what is provided by the CORE program today, which benefits from much of that incentive being paid risk-free up front. This proposal is well below the required project IRRs documented in the Summit Blue analysis, and therefore out of step with the independent study commissioned specifically for this proceeding.**

To demonstrate this point, it is worth emphasizing the results of the Phase One SREC Pilot. The board commissioned this pilot in December specifically as a learning exercise, and scheduled it so the adoption results could inform this ACP proceeding. As of last Friday, only six projects had applied, five of which were from a single very large energy company with projects all over 500KW. The NPV of the current straw proposal is similar to the NPV people are considering in the current market based on no rebates but a 20-year SREC stream – AND THERE HAS BEEN VIRTUALLY NO ADOPTION ON THAT BASIS. The minimal adoption that has surfaced has been ONLY with very large projects. We submit that the results of the phase one pilot clearly demonstrate that the economics associated with the current straw proposal will not be successful, and we urge the board to carefully consider the pilot results in making this decision.

With those comments as substantiation, we want to emphasize that both qualification term and SREC schedule must be considered together. Although we believe longer (i.e. 15 year) terms are better, ANY term length is workable as long as the associated SACP levels are matched to deliver the required NPV.

In conclusion, we urge that the August board order improve significantly on the economics proposed in the staff straw recommendation. We strongly recommend an incentive of AT LEAST a \$4.00/watt-DC on a 10% NPV basis, using a 1.0 annual kWhrs/W-DC production factor, with \$4.50/W-DC being required if a more diverse market footprint is desired. We re-assert our previous recommendation of a qualification term of at least 15 years, consistent with widespread market practice, regional development trends, and the recommendations of the recent Summit Blue report. If the economics proposed in the current straw are not improved significantly, the current industry stall will continue and the solar RPS goals will almost certainly not be met.

For convenience, we have provided a table summary of acceptable qualification term and SREC capture schedule assumptions that all result in the required \$4.50/W-DC NPV (10%). Note that this is the actual SREC value required to deliver \$4.50/W-DC NPV to the project, so **the SACP would have to be higher**. This recommendation assumes a 3% decline in annual SREC value, consistent with the current straw proposal.

Term and SREC Value Combinations That Deliver 10%NPV of \$450/SREC⁵

Qualification Term	SREC Value in first year	Annual SREC Value Decline
8 Years	\$922	3%
9 Years	\$863	3%
10 Years	\$817	3%
11 Years	\$781	3%
12 Years	\$751	3%
13 Years	\$727	3%
14 Years	\$706	3%
15 Years	\$690	3%

For example, if the board decides to settle on a 12 year qualification term with an assumed 3% annual decline in SACP, the first year SREC value would need to be at least \$922 to deliver a \$4.50/W-DC 10%-NPV, for which an SACP of around \$800 to \$850 would be appropriate⁶.

As noted above, correcting the significant economic problems with the straw proposal is the top priority. There are several other aspects of the straw that also require attention. We will treat them more fully in our written comments, but for completeness I want to mention the critical items briefly:

3. The proposed block structure is highly confusing and adds nothing. The primary constraint is the annual budget, and there is no need to add additional complexity beyond simple budget compliance as is current program practice.
4. The two year SREC life is really important, and we will address the need for this further in our written comments.
5. The entity cap issue is also extremely important, and the proposed caps are highly inappropriate. We will also address this issue further in subsequent comments.

⁵ The recommended NPV goal of \$400-450/SREC also assumes that AT A MINIMUM the board establishes a relatively stable multi-year SACP schedule, equal in length to the qualification term. Without at least this minimum “soft securitization”, higher SREC values must be assumed to account for further market risk discounting.

⁶ Note: these recommendations are slightly different than previous input provided by the Sun Farm Network, since we are responding specifically to details provided in the straw. They are approximately economically similar, however. This proposal of 15-years with starting SREC value of \$613 reflects the OCE assumption of a **3% annual decline**. The previous SFN recommendation of \$730 SREC value in the first year was based on a **5% annual decline**.

Issues Beyond The Straw

There are several key policy questions which were not addressed in the straw but which should also be part of the August order.

1. The Summit Blue study was commissioned to inform the public debate, but we want to emphasize that the details of the model **HAVE NOT BEEN PUBLISHED**⁷. We want to be crystal clear on what we are asking for here: we do not need to see the actual model itself, but there should be a spreadsheet style summary of pro formas, showing annual cashflows, for all scenarios presented. The current report is unacceptably inadequate in presenting model results. Furthermore, they did not analyze the case actually being proposed in the straw. It is crucial that the model be updated to correct errors, include specific analysis to cover the rebate plus SREC program being proposed, and including formal publication of the annual cashflows resulting from all scenarios. Otherwise, this study will not have fulfilled its intended purpose in informing this proceeding fully.
2. The current pilot is set to expire at the end of July, so at the current time there is no way to proceed on new projects under this revised framework. We strongly recommend that the board immediately allow new projects to begin applying under this new program with the August order. At a minimum, a phase two pilot should be launched immediately, although this is less preferable than generally opening the market up for unrestricted application.
3. We, and others, have previously recommended that the board consider establishing a bi-directional circuit breaker to improve market balance. We will provide more detail in our written comments, but I want to emphasize that since the SACP and the multi-year schedule are being established in this proceeding, **NOW** is the time to also implement this new and important balancing mechanism.
4. Lastly, I want to comment briefly on the straw proposal to dramatically limit qualification term for legacy systems. All projects currently installed expected to be able to sell their SRECs for an extended term, typically 20 years or more. The straw proposal recommends limiting them to 4 or 5 years. While I understand staff's concern about windfall, and I recognize that a solution could be crafted that is economically equivalent with current expectation, **THAT IS NOT THE POINT**. The fact that the board is making such a dramatic change to the fundamental design of the market, and that those changes are being applied retroactively to already installed systems, destroys all board credibility. What we need most to make this RPS framework effective is confidence that "stroke of the pen" regulatory changes will not strand investments. With the legacy approach

⁷ Note: the needed information was provided by Summit Blue after this testimony was provided, and we believe this issue has now been resolved as long as ongoing analysis continues to be published on a similar basis.

proposed in the straw, the board would be educating the market – especially investors – that they are willing to in fact make exactly the kind of retroactive changes it fears the most. Regardless of economics, I ask the board to consider the extremely negative impact such a dramatic retroactive change would have on building the regulatory confidence the market needs. The proposed legacy treatment will INCREASE perceptions of regulatory risk, not reduce it as is a stated board objective.

As noted in the introduction, additional details will be provided in our written comments. My testimony today is intended to focus on the most critical issues at a high level. We again thank the board for the opportunity to contribute to these proceedings, and we look forward to participating in the debate on these important issues through the public process leading up to the August board order.

COMMENTS ON THE OCE STRAW PROPOSAL ON TRANSITION
Docket #EO0600744
June 22, 2007

PowerLight is the nation's leading manufacturer and integrator of large-scale commercial solar electric systems. We have installed over 100 MWs of PV worldwide in the last six years with over 12 MWs in New Jersey. Our New Jersey customers include small and large businesses, schools, and state and federal agencies such as Johnson & Johnson, Tiffany's, Middlesex Water, Department of Military Affairs, Homeland Security, New Jersey State Police, and Toms River, Bayonne and Margate Schools. We are an active aggregator of solar RECs and have bought and sold thousands of RECs in the last three years on behalf of our customers, and have entered into multi-year contracts that would be dramatically affected by some of the terms in the Straw Proposal.

We would like to say that PowerLight supports the transition to the next level of market incentives to meet the goals of the RPS and understands the need for a transition to a REC-based incentive structure. We are eager to work with the OCE, the BPU, and governor's office to make sure that the new program is both practical for the solar industry and cost-effective for the ratepayers. So, to review the Straw we offer the following comments:

1. We agree with the Straw that for the small system sector it is necessary to provide rebates in addition to generating solar RECs. Continuing rebates for small systems will help that sector overcome higher equipment and transaction costs and levelize the field with the larger system sector. We won't yet comment in detail on the numbers proposed by the OCE but do believe the rebate levels proposed need to be further discussed, as well as how the block system will work. We are concerned that the block and Current Year design could cause stop and starts in the program that would be very detrimental to market development. We are also very concerned that a 12-year payback period is being used as a determinant of rebate levels. Nowhere in the industry advocacy in NJ over the last 6 years has a 12-year payback been considered as the correct threshold. Experience of the industry in selling projects in the small system sector indicates a 7 to 10 year payback as being "sellable," and in the large system sector 5 to 7 years. The Summit Blue report concurs.

2. PowerLight supports the development of programs for the new construction sector as well as community based systems, but we think these ideas are more properly explored in another venue, not under the current proceeding.
3. In reference to market support for the larger system sector PowerLight has continually supported a REC-only incentive structure but has highlighted the need for some sort of long-term securitization, with several options including a tariff-based mechanism. The Straw does not materially address this, and in fact, due to the proposal to limit REC “qualification” life, it further shakes the confidence of investors and the financial community, and underscores concerns that rules could be changed at any time without regard to investments already made. We have already felt the impact in the financial community where long-term SREC contracts we were about to sign with LSEs were cancelled. We therefore do not support generation term limits in any sector or retroactive rule changes that affect or could potentially affect the expected returns for investments already made.

A practical consideration not to be overlooked is that, if generation term limits are imposed on existing projects where ongoing REC revenue is expected (based on the RPS rules), than we fully anticipate legal action is likely to occur as investors seek to recover their investment in the time horizon that originally led to their decision to invest. Furthermore, taking projects out of REC generation would REDUCE the total RECs available in the market and both drive up REC prices AND create the need for NEW projects to meet the RPS obligations. At the very least, the entire RPS structure would need revision, causing further uncertainty and delays.

4. In a REC-only program PowerLight does not believe it serves the interests of the OCE, the solar industry, or the ratepayer to impose entity caps. The idea is to allow the market to find the most effective channels to build capacity, to facilitate private-sector investment, and to lower ratepayer costs, not to micro-manage the market.

5. We have supported in past testimony the setting of a multi-year SACP schedule. We applaud the proposal in the Straw but believe a 10-year schedule would be better. We also do not agree with the proposed dollar levels. The SACP is not a guaranteed value and RECs will continue to trade on a supply/demand basis. We strongly recommend further discussion and analysis to arrive at the correct SACP levels. As a data point, the proposed PSE&G solar program sets SREC levels at \$475 for 15 years. This would indicate that unsecured SREC levels would need to be appreciably higher, and therefore the SACP should probably be higher than the PSEG proposed levels in the range of \$650 - \$850.
6. We have also continually supported changing the SREC life from one-year to two-years. This would allow more flexibility in the SREC marketplace while taking away the disincentive to overbuild solar capacity in any given year. We believe a two-year REC life will lower costs for ratepayers and promote a more smooth ramp up to meet the RPS goals.
7. The Straw suggests that a market-based SREC trading program is the preferred structure. However, it fails to recognize and develop the appropriate market-based signals that will be required in such a system. For the SREC market to properly price existing and new SRECs, real-time data needs to be produced and be made available. At this time, no SREC supply or SREC demand data is available in a useful and practical matter. Periodically releasing transaction data, which in some cases is 4 to 6 months old, is not sufficient to produce the correct pricing signals. Additionally, SREC transactions are not the only market signals needed. The other pieces of information are projects in queue for construction, projects under construction and timing of when projects are likely to go on-line.

In conclusion, PowerLight appreciates the efforts of the OCE and BPU to craft a smooth transition to the next level of solar deployment in NJ. While the straw attempts to introduce valuable concepts we strongly urge taking the advice of the Summit Blue report, and further engagement with the solar industry to make required revisions and to work out the details for a practical and cost-effective program going forward. We also encourage the Board to consider sending a strong and clear message stating its position on, and addressing specifically the issue of regulatory uncertainty. The Straw has made

regulatory risk probably the single most important issue for the solar program in NJ, not only on a forward-looking basis but also retroactively. This uncertainty needs to be quelled decisively and quickly to avoid irreparable harm.

We truly want New Jersey to be the “Solar Capital” of the country and look forward to working in partnership with the BPU to make that happen. We appreciate the BPU’s vision, support, and hard work on behalf of clean energy and New Jersey’s ratepayers and citizens. Please let us know what PowerLight can do to help.

Respectfully submitted,

Thomas Leyden

Managing Director

PowerLight East Coast Office

700 South Clinton Avenue

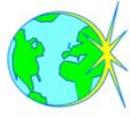
Trenton, NJ 08611

tleyden@powerlight.com

www.powerlight.com

609-964-8900 off.

609-964-8924 fax.



Advanced Solar Products, Inc.
66 Snyderstown Road Hopewell, NJ 08525
sales@advancedsolarproducts.com

609-466-4495 off.
609-466-8681 fax

June 7, 2007

VIA HAND DELIVERY

Honorable Kristi Izzo, Secretary
Board of Public Utilities
Two Gateway Center
Newark, NJ 07102

**Re: Straw Proposal for SREC Cap and Additional CORE Budget
BPU Docket No. EO06100744**

Dear Secretary Izzo:

Please accept for filing the following comments by Advanced Solar Products, Inc. in regard to the above-referenced matter, along with attachments.

1. The Straw Proposal proposes that production-based incentives for solar power be accompanied by a continuation of rebates for small systems. Advanced Solar Products agrees with this policy generally, for the following reasons:

A. The small system sector has created most of the jobs and small businesses that have grown in New Jersey during the course of New Jersey's Clean Energy Program, and can be expected to continue to do so in the future. Thus, if economic growth and job growth are important objectives in New Jersey's Clean Energy Program, as we believe they are, then small systems must be supported.

B. According to figures published by the U.S. Energy Information Administration, in New Jersey just under 40% of electric power revenue comes from the residential sector. If homeowners are to contribute such a large share of the costs of the Program, including SBC, energy, and distribution costs, they should have an opportunity to participate in the Program and get a direct share of the benefits. If the Program is to continue to enjoy strong public support as it does today, the residential and small business sector must be treated equitably.

However, the level of rebates for small systems must be sufficient, in combination with production-based incentives, to make solar power projects economically viable. As explained below in comment no. 3, the incentive levels proposed in the Straw Proposal fall short of this goal.

2. The Straw Proposal is based fundamentally on a model for production-based incentives using an unsecured commodity market for SREC's. Of five models analyzed for ratepayer impact by Summit Blue under contract to the BPU, *this was the most expensive model*. It's cost to ratepayers was estimated by Summit Blue to be **58% higher** than the cost of the least expensive model, the "Full Tariff" model. The additional cost to ratepayers would amount to billions of dollars over the life of the Program. Additionally, the model proposed in the Straw Proposal creates the most difficulty for the solar industry to develop and build solar power systems, and thus is the least likely to achieve success in meeting the RPS goals. The BPU should reconsider its choice of models for production-based incentives, and in particular give serious consideration to the Full Tariff model.

3. The incentive levels proposed in the Straw Proposal are inadequate to make solar power projects economically viable. Advanced Solar Products' economic analysis (attached) shows that for a typical residential project (8 KW) financed by a home equity loan, and using optimistic system prices and loan interest rates, the project does not break even until the 19th year of operation. Homeowners are not likely to make an investment that is losing money for the first 18 years. A typical commercial project (250 KW) loses money throughout the entire 25-year period of the analysis. Commercial entities can be expected to invest in solar power systems only if they provide a decent rate of return, and they certainly will not invest in a project that loses money throughout a 25-year life. We urge the BPU to reconsider the incentive levels. Solar power projects must be made economically viable if the goals of the State's RPS are to be met.

4. Advanced Solar Products submits for the record a copy of an opinion letter prepared for it by the law firm of Potter & Dixon of Princeton, New Jersey, showing that the BPU currently has ample authority under the law to implement a Full Tariff model for production-based incentives for solar power, and addressing other related issues.

Sincerely,



Lyle K. Rawlings, P.E.
President

POTTER AND DICKSON
ATTORNEYS AT LAW
194 NASSAU STREET
PRINCETON, NEW JERSEY 08542
(609) 921-9555

TELECOPIER
(609) 921-2181

R. WILLIAM POTTER
PETER D. DICKSON

MEMORANDUM

Date: May 23, 2007

To: Lyle Rawlings, Advanced Solar Products

From: Potter & Dickson,
R. William Potter
Peter D. Dickson

Re: Statutory Authority Of Board Of Public Utilities To Adopt A Renewable Energy Tariff

I. SUMMARY: The Electric Discount and Energy Competition Act (EDECA) does not repeal or limit the BPU's general jurisdiction and powers over public utility rates, tariffs and duty to provide "safe, adequate and proper service:"

As an initial matter, this memorandum expands upon the preliminary letter/memo (dated January 30, 2007) on the same subject; that letter/memo is included as Attachment 1. Briefly, both memos reach the same overall conclusion: The Electric Discount and Energy Competition Act of 1999 (EDECA), N.J.S.A. 48:3-49, et seq., does **not** repeal or limit the general jurisdiction and longstanding statutory authority of the Board of Public Utilities (BPU) acting pursuant to Title 48, N.J.S.A. 48:2-1, et seq., **except** in those limited instances in which the EDECA expressly or necessarily repealed or limited these Title 48 powers. In other words, those

sections of Title 48 which were not amended or repealed by EDECA remain viable sources of authority for the BPU to utilize on their own independently of any sections of EDECA or to combine with relevant sections of EDECA, and thus to expand the Board's options.

In particular, when these Title 48 powers are combined with EDECA, it is clear that the BPU has more than ample authority to require or approve of "Renewable Energy Tariffs"(REP)¹ **or to enact other creative or experimental regulatory** ² **mechanisms** which have the purpose or effect of promoting renewable energy (RE) or energy efficiency (EE) goals, or other important energy, environmental and consumer policies.

Our January 30, 2007 memo addressed this expansive power to achieve state goals in broad brush terms; now we submit this more detailed review of the governing law including a lengthy review of controlling judicial precedent which underscores the broad reach of the BPU's powers. We also address the interplay of Title 48 and certain federal issues, inasmuch as a RET **may** be structured in such as way as to be characterized as the "sale for resale" of electricity from a solar / customer "host" to a utility or "load serving entity" for commingling with other traditional power sources and eventual resale to retail customers. As a "bright line" rule, wholesale transactions are deemed to be controlled by federal law by the Federal Energy Regulatory Commission (FERC).

However, it is my understanding that the RET may be structured such that the solar Photo Voltaic (PV) systems will remain as "net metering" systems, pursuant to the BPU's regulations.

¹ While the January 30 memo addressed a "Feed In Tariff" (FIT) and this memo reviews a more general "Renewable Energy Tariff" (RET), this distinction has no effect on the legal results of this inquiry, which remain the same.

² Although this memo is considerably more expansive, it is not exhaustive of the subjects addressed; thus, if readers have questions after reviewing this document, they should feel free to

N.J.A.C. 14:4-9.1, et seq. As such the PV developer would use the RET solely for the sale of “any remaining credits” after deducting usage by the solar PV system host. N.J.A.C. 14:4-9.3 (“Net metering general provisions”)

In any event, to the extent federal law may apply, we submit that solar PV systems may also be classifiable as “small power production facilities” or “Qualifying Facilities” (QFs), pursuant to the Public Utility Regulatory Policies Act (“PURPA”) of 1978, 16 U.S.C.A. 824a-3, et seq. Importantly, QFs are exceptions to the bright line rules of exclusive federal jurisdiction.

Therefore, to sum up, acting pursuant to Title 48, EDECA and where appropriate PURPA, the BPU has or retains ample authority to establish and regulate solar PV sales via RETs provided the tariff rates are found to be “just and reasonable,” N.J.S.A. 48:2-21 and necessary or convenient to helping to achieve “safe, adequate and proper service including service...in a manner that tends to conserve and preserve the quality of the environment and prevent the pollution of the waters, land and air of this State...” – as solar or other RE sources demonstrably do. N.J.S.A. 48:2-23.

Finally, we also find no impediment in EDECA or Title 48 to the BPU approving rate “incentives” – such as “margins” or “mark ups” to be added to the RET – which will benefit purchasing entities using solar PV as part of their obligation to satisfy their “Renewable Portfolio Standards” (RPS) or, generally, as part of their “Basic Generation Services” (BGS) responsibilities.³

II. How A Renewable Energy Tariff Can Be Lawfully Structured

contact Potter and Dickson and we will respond to those questions as promptly as possible.

³ Not addressed in this review are what *procedures* the Board must employ before it may approve of a RET or impose it “sua sponte.”

Two key conclusions can be drawn from the detailed discussions below.

First, the BPU has ample authority to adopt a Renewable Energy Tariff (RET) and to regulate the price the utility pays for energy or capacity up to the customer's own total usage over some period of time. This authority is well encompassed within the Board's plenary power over retail rates and "safe, adequate and proper service," N.J.S.A. 48:2-23, at "just and reasonable rates," N.J.S.A. 48:2-21, and including the requirement of setting such rates in a tariff. This authority was not amended by the Electric Discount and Energy Competition Act of 1999 (EDECA), N.J.S.A. 48:3-49.

Second, while the Board normally lacks authority over wholesale rates, which would govern the price that a utility might pay for energy or capacity above and beyond the customer's own net usage, a combination of Qualified Facility (QF) status and the "Pike County" doctrine can settle any lingering issues. If the solar facility is a QF, under the Public Utility Regulatory Policies Act of 1978 (PURPA), the utility obligation to buy and the Board's jurisdiction over the rates paid by the utility are both clear. In addition, the PURPA precedent and the "Pike County" doctrine can be put to good use here. Acting under its PURPA authority just as it did with the 1988 "Stipulation of Settlement" (SOS) for QF cogeneration facilities, and various other orders regarding cogeneration and small power production facilities,⁴ the Board can set standards for utility purchases of net generation from QF solar facilities. The Board can also make a declaration that the costs of such purchases of net generation can be recovered through an

⁴ The 1988 SOS modified the Board's 1981 - 83 "PURPA docket" orders, Docket No. 8010-687, which established the basic regulatory framework for public utilities to purchase electric power (energy and capacity) from QFs based on a tariff or a "standard offer" basis or through long term (negotiated) Power Purchase Agreements (PPAs) that are subject to BPU approval on a case by case basis.

appropriate “clause” – such as the Demand Side Adjustment Clause (DSAC), or the Levelized Energy Adjustment Clause (LEAC) by which these and other discrete costs have been segregated from general rate making for prompt recovery. It can also include a “Pike County” ruling: that such purchases are prudently incurred as part of the utility’s renewable portfolio standards and obligations (RPS).

III. The Expansive Authority Of The Board of Public Utilities

A. Basic Regulatory Authority

Although case law under EDECA is not well developed, the few reported cases thereunder repeat the same basic message as found in longstanding case law under Title 48, holding that the BPU’s authority is *extremely* expansive and goes well beyond the explicit grants of authority in any specific statute. In re Public Service Elec. and Gas Co.’s Rate Unbundling, Stranded Costs and Restructuring Filings, 167 N.J. 377, 383-384 (2001) (“Because the grant of authority is to be liberally construed to enable the agency to accomplish the legislature’s goals, courts defer to the agency’s statutory interpretation provided it is not plainly unreasonable.”). In the Matter of the Ownership of Renewable Energy Certificates, 389 N.J. Super. 481 (App. Div. 2007). Because the basic authority in N.J.S.A. 48:2-21 (rates) and 48:2-23 (service) are not amended by EDECA, it must be concluded that the these statutes are to be read “in pari materia” so as to harmonize them, not to find them in conflict. As such, the proper reading of EDECA and Title 48 is that the former has expanded – not contracted – BPU’s Title 48 jurisdiction, except in specific, narrowly defined circumstances.

We start our analysis with a lengthy excerpt from a recent definitive Supreme Court case,

Matter of Valley Road Sewerage Co., 154 N.J. 224 (1998), which confirms the broad reading we give to the BPU's powers:

We first address Valley Road's contention that the BPU lacks authority to revoke its franchise and to seek the appointment of a custodial receiver with the power to operate and sell the company.

The New Jersey Legislature has vested the BPU with "general supervision and regulation of and jurisdiction and control over all public utilities ... and their property, property rights, equipment, facilities and franchises so far as may be necessary for the purpose of carrying out the provisions of [Title 48 of the New Jersey Statutes]." N.J.S.A. 48:2-13. The BPU's authority extends not only to the corporate entity, but to "every individual ... that now or hereafter may own, operate, manage or control" the utility. *Ibid.* **This sweeping grant of power is "intended to delegate the widest range of regulatory power over utilities to the [BPU]."** Township of Deptford v. Woodbury Terrace Sewerage Corp., 54 N.J. 418, 424 (1969). **Furthermore, the BPU's authority over utilities, like that of regulatory agencies generally, extends beyond powers expressly granted by statute to include incidental powers that the agency needs to fulfill its statutory mandate.** A.A. Mastrangelo, Inc. v. Commissioner of Dept. of Env'tl. Protection, 90 N.J. 666, 683-84, 449 (1982); New Jersey Guild of Hearing Aid Dispensers v. Long, 75 N.J. 544, 562 (1978).

The statutory scheme establishes the BPU's authority to revoke Valley Road's franchise. First, N.J.S.A. 48:2-14 provides

that "[n]o privilege or franchise granted ... to any public utility by a political subdivision of this State shall be valid until approved by the [BPU]." In approving a privilege or franchise, moreover, the BPU "may impose such conditions as to construction, equipment, maintenance, service or operation as the public convenience and interests may reasonably require."

***Ibid.* Implicit in the power to grant a franchise is the power to revoke it for breach of the franchise's conditions.** Board of Pub. Util. Com'rs v. Sheldon, 95 N.J.Eq. 408, 410 (Ch.1924).

Second, N.J.S.A. 48:2-40 provides that the BPU "at any time may order a rehearing and extend, revoke or modify an order made by it." This provision encompasses the grant of a franchise to a public utility. See Township of Deptford, *supra*, 54 N.J. at 424-25 (holding that under N.J.S.A. 48:2-40, BPU had authority to revoke its prior approval of option clause in license granting franchise,

which permitted municipal government to purchase franchise at later date for specified sum). We conclude that, **whether implied from its authority to approve a franchise or its authority to revoke prior orders**, the BPU could revoke Valley Road's franchise rights.

Finally, the authority to seek the appointment of a custodial receiver is **fairly inferable from the expansive powers that the Legislature has granted to the BPU**. Those powers include the authority to require compliance with State and local laws, N.J.S.A. 48:2-16(1)(a), to require the provision of safe, adequate, and proper service, N.J.S.A. 48:2-23, and to revoke a franchise that fails to provide such service. Fairly inferable is the legislative intent to vest the BPU with the discretion to revoke a franchise and to seek the appointment of a custodial receiver when such action is necessary to ensure the continued provision of safe, adequate, and proper utility service. Cf. Application of Pennsylvania & Newark R.R. Co., 31 N.J. 146, 154 (1959) (stating that state may seek forfeiture of utility franchise that fails to serve public).

Matter of Valley Road Sewerage, 154 N.J. 224, 235-237 (1998)(emphasis added).

Thus, the Supreme Court held, the BPU's authority is the "the widest range of regulatory power," includes all "incidental powers that the agency needs to fulfill its statutory mandate," including "implied powers" and "fairly inferable" powers. Id.

Valley Road was only the latest in a very long line of authority to this effect. New Jersey courts have repeatedly held that the provisions of the Public Utilities Law in Title 48 are to be construed liberally and the powers delegated by the Legislature to the Board are to be read

broadly.⁵ The statutes governing public utilities are the Legislature's recognition that the "public interest in proper regulation of public utilities transcends municipal or county lines, and that a centralized control must be entrusted to an agency whose continually developing expertise will assure uniformly safe, proper and adequate service by utilities throughout the State."⁶ "[T]he grant of authority to an administrative agency is to be liberally construed to enable the agency to accomplish the Legislature's goals."⁷

The Legislature intended that the Board have "the **widest range of regulatory power** over public utilities. . . ."⁸ The Legislature gave the Board general jurisdiction over utilities "as far as it could be done by legislative act," and New Jersey courts "**have always construed these legislative grants to the fullest and broadest extent.**"⁹ Regulation and control over public utilities is "beneficial to the State and its citizens," and is necessary to insure "uniformly safe, proper, and adequate service by utilities throughout the State."¹⁰

Absent legislative direction and approval, powers and responsibilities delegated to an agency cannot be abdicated, renounced or surrendered.¹¹ A continuing governmental power, such

⁵ In re Petition of South Lakewood Water Co., 61 N.J. 230, 247 (1972); Township of Deptford v. Woodbury Terrace Sewerage Corp., 54 N.J. 418, 424 (1969); Bergen County v. Department of Pub. Utils., 117 N.J. Super. 304, 312 (App. Div. 1971).

⁶ Bergen County v. Department of Pub. Utils., 117 N.J. Super. 304, 312 (App. Div. 1971) (quoting In re Public Serv. Elec. and Gas Co., 35 N.J. 358, 371 (1961)).

⁷ Barry v. Arrow Pontiac, Inc., 100 N.J. 57, 70 (1985) (quoting Gloucester County Welfare Bd. v. New Jersey Civ. Serv. Comm'n, 93 N.J. 384, 390 (1983)).

⁸ Township of Deptford v. Woodbury Terrace Sewerage Corp., 54 N.J. 418, 424 (1969)(emphasis added); In re Public Serv. Elec. & Gas Corp., 35 N.J. 358, 371 (1961).

⁹ In re Borough of Saddle River, 71 N.J. 14, 33-34 (1975) (Schreiber, J., concurring)(emphasis added) (quoting State v. New York Cent. R.R. Co., 52 N.J. Super. 206, 208 (Ch. Div. 1958)) (citations omitted).

¹⁰ In re Petition of South Jersey Gas Co., 116 N.J. 251, 258 (1989) (citations omitted).

¹¹ Borough of West Caldwell v. Borough of Caldwell, 26 N.J. 9, 30-31 (1958).

as fulfilling and serving the public necessity, is not exhausted by its exercise at a given time, and the governmental power to regulate and control cannot be surrendered or impaired.¹² See, e.g., In Re Revision Of Rates By Toms River Water Company, 82 N.J. at 212 ("[a]lthough our view of the operation of the suspension period reflects the clear intent of the Legislature, we realize that the past practice of the Board has apparently ignored that intent"); But see also In Re Revision Of Rates By Redi-Flo Corporation, 76 N.J. 21, 42 (1978)(lack of authoritative Board statement "lessens the degree of judicial deference to long-standing [incorrect] interpretations of statute by the administrative agency charged with implementing its legislative mandate").

B. Tariff Authority

Subject to certain exceptions – none relevant here -- no regulated public utility may impose a "rate, toll, fare or charge" unless and until it is contained in a tariff on file with the Board. N.J.S.A. 48:2-21; N.J.A.C. 14:11-7.2; In Re Revision Of Rates By Toms River Water Company, 82 N.J. 201, 208-210. (1980). N.J.A.C. 14:11-7.2 provides that

Every public utility shall file with the Board and keep open to public inspection in each office where applications for service may be made, tariffs applicable to its affected service area, showing all rates and charges made, established or enforced, or to be charged or enforced, all rules and regulations relating to rates and charges or services used or to be used, and all general privileges and facilities granted or allowed.

N.J.A.C. 14:11-7.2(a)(emphasis supplied). Again, the word "shall" is mandatory. Subject to certain exceptions not relevant here, the rates for any public utility services must be “just and reasonable.” N.J.S.A. 48:2-21(b); 48:3-1. No utility has any right to charge an unreasonable rate or to engage in an unreasonable practice.

¹² Id. at 32.

N.J.S.A. 48:2-21.2(c) and 48:2-21(d) both require Board approval of any alteration in any existing classifications of service, and further require BPU approval of any new service or service offering by a public utility. N.J.A.C. 14:1-5.11(a)4 and 14:1-5.11(a)6 require that a public utility give at least 30 days notice to the BPU of any proposed "initial offering" of a new service and, further, that the utility submit and the Board approve a proposed 2-year pro forma projection of revenues and accounts for the new service.

C. EDECA Amendments

Importantly, EDECA did not change the general grant of authority in N.J.S.A. 48:2-13 in any way relevant to the issues presented by a RET, and thus all of the case law remains valid. In fact, a new subsection d was added by EDECA stating that unless otherwise specified in the act, “all services necessary for the transmission and distribution of electricity ... including but not limited to safety, reliability, metering, meter reading and billing, shall remain the jurisdiction of the Board of Public Utilities. The Board shall also maintain the necessary jurisdiction with regard to the production of electricity ... to assure the reliability of electricity ... supply to retail customers in the state as prescribed by the board or any other federal ... or multi-jurisdictional agency [i.e., PJM] agency responsible for reliability and capacity in the State. ” EDECA Sec. 52. If we apply the numerous court interpretations of the agency’s powers to include not just those expressly enumerated powers but also powers that are “incidental powers that the agency needs to fulfill its statutory mandate,” including “implied powers” and “fairly inferable” powers, the BPU plainly has ample authority to adopt RET to ensure the “reliability and metering” of solar electric production.

We also find it significant that EDECA contains express repealer provisions, which do not

include any of the provisions discussed in or relevant to this memorandum. See §65 of EDECA (not codified), repealing two entire statutes contained in Title 48 and much of a third statute found in Title 52.¹³ Moreover, repeals by implication are strongly disfavored in the law. See, e.g., Kemp by Wright v. State, County of Burlington, 147 N.J. 294, 306-307 (1997). An “irreconcilable conflict” between the previous act and a new enactment must be found to support a claim of an implied repeal. Id. The fact that a particular law is not included in an express repealer is significant in deciding any implied repeal question. Id. at 305. The inclusion of an express repealer clause suggests strongly that the Legislature was aware of the precise laws it wished to repeal, and did so by express declaration.

Most germane to this discussion is a new section added by EDECA, N.J.S.A. 48:3-57. Subsection e of this provision adds new authority for the Board to permit utilities to recoup all costs of basic generation service (BGS), and in particular, grants express authority for the Board to approve rate and price mechanisms that include incentives to utilities:

The board may approve ratemaking and other pricing mechanisms that provide incentives, including financial risks and rewards, for the utility or electric power supplier to procure a portfolio of electric power supply that provides maximum benefit to basic generation service customers.

(Emphasis added.)

This section can be read to include non-economic benefits such as environmental benefits

¹³ The Title 48 laws repealed are the “Public Utility Accident Fault Determination Act,” N.J.S.A. 48:2-21.4, et seq. and the “Electric Facility Need Assessment Act,” N.J.S.A. 48:7-16 though 25; the Title 52 repealers are found in several sections of the “Department of Energy Act, P.L. 1977, c. 146, none relevant here.

which are produced by cleaner, or “zero emission” sources such as solar PV systems. Given the wide deference that reviewing courts grant the decisions of the BPU, the authority in this section would certainly allow the BPU to include rate-type incentives for both the utility and the supplier in a RET, assuming that a factual case is made for the benefits of such an arrangement. For a variety of reasons, a RET would seem to be an obvious economic benefit to the selling ratepayers as well as a societal or environmental benefit for all ratepayers in general.

IV. Federal and State Jurisdiction: Wholesale v. Retail.

The Federal Power Act and successor statutes have drawn a “bright line” between federal and State jurisdiction over electrical transactions. Any sale for resale or wholesale is exclusively committed to federal jurisdiction. Almost any retail transaction is a matter of state jurisdiction. The Federal Energy Regulatory Commission (FERC) has exclusive jurisdiction over wholesale transactions, and those transactions must be “just and reasonable.” 16 U.S.C. §824d. The “filed rate doctrine” requires that wholesale rates filed with or fixed by FERC must be given binding effect by state regulators in determining intrastate rates. Entergy Louisiana, Inc. v. Louisiana Public Service Commission, 539 U.S. 39 (2003); Nantahala v. Thornburg, 476 U.S. 953 (1086); Federal Energy Regulatory Commission v. Mississippi, 456 U.S. 742 (1982); see also Narragansett Electric Company v. Burke, 119 R.I. 559, 381 A.2d 1358 (1977). Thus, the BPU cannot reconsider or reject any FERC-approved rate for any reason. “The filed rate doctrine ensures that sellers of wholesale power governed by FERC can recover the costs incurred by their payment of just and reasonable rates.” Nantahala, 476 U.S. at 970.

The Supreme Court has repeatedly noted that the pre-emptive effect of the filed rate

doctrine does not depend on whether FERC has actually ruled on the reasonableness of the rates or practices at issue. Entergy Louisiana, 539 U.S. at 45; Nantahala, 476 U.S. at 470-71; FERC v. Mississippi, 456 U.S. at 759. Thus, the “bright line” between state and federal jurisdiction remains even if the FERC has declined to affirmatively exercise its jurisdiction.

However, there remains an unsettled area in which the Supreme Court has not yet definitely ruled, referred to as the “Pike County” rule. A decision of the intermediate court of appeals in Pennsylvania raised the possibility that a state court relying upon its “prudence” review power could disallow some portion of purchased power costs on the theory that the utility should not have purchased the particular increment of power in question because less expensive power was readily available elsewhere. Pike County Light & Power Co. v. Pennsylvania Public Utility Comm’n., 77 Pa. Commw. 268, 465 A 2d. 735 (1983).

In Nantahala, the Supreme Court said in dicta, citing to Pike County, “[w]ithout deciding this issue, we may assume that a particular quantity of power procured by a utility from a particular source could be deemed unreasonably excessive if lower cost power is available elsewhere, even though the higher cost power actually purchased is obtained at a FERC-approved, and therefore reasonable, price.” 476 U.S. at 972. But the Court ruled in that case that for various reasons no alternative source to the FERC filed power was available, and so the issue was not presented and remains unsettled.

Notwithstanding these principles, the BPU has been delegated power under the Public Utilities Regulatory Policies Act of 1978 (PURPA) to establish “buy back” rates for utility purchases of power from Qualifying Facilities (QFs) including “small power production facilities” which may be solar electric facilities up to 80 mWs. The Board may also establish

standard offer rates that operate like tariffs for the automatic purchase of power from these QFs. And the Board may approve long term contracts, called Power Purchase Agreements (PPAs) between regulated utilities and QFs, also of late called “Non-Utility Generators” or NUGs. PURPA required that utilities purchase energy and capacity from QFs and also sell such facilities “back-up” or “stand by” power at non-discriminatory rates. The BPU implemented this authority in several orders, going back to 1981 and 1983, but most recently in a “Stipulation of Settlement” (SOS) approved in 1988. This order was published at 102 PUR 4th 112

The approved stipulation “sets forth a revised set of procedures under which the ... utilities ... will select and purchase ... from qualified cogeneration and small power production facilities as defined by PURPA and the regulations of the [FERC]; and in certain instances [from] independent power producers (IPPs), collectively referred to as alternative power producers (APPs)....” Id. at 116.

The BPU said that “[u]tilities will continue to have an obligation under PURPA to purchase energy and capacity ... from QFs.” And, like prior PURPA orders, this revision endorsed contract sanctity and the “flow through” of PPA costs, upon obtaining BPU approval: “The Settlement Agreement provides that the Board find that once the Board has approved power purchase contracts ... it shall not readjust the contract rates ... In order to preserve the benefit of the bargain between the utility and the QF, the flow through and recovery of purchased power costs must be assured during the term of the [PPA].” Id. at 118 (emphasis added).

Freehold Cogeneration Assoc. v. Bd. of Reg. Commissioners, 44 F.3d 1178 (3rd Cir.), cert. denied, 516 U.S. 815 (1995), is an important case for the rule that PURPA preempts state commission authority to reconsider the purchase rates for a QF as set forth in a PPA which has

received state approval. The BPU had announced it would “investigate” certain aspects of a QF’s contract with a utility if the parties were unable to negotiate a new contract or a contract buyout, and although the BPU’s action was carefully couched only as an “investigation,” it was widely viewed as the precursor to taking more concrete action against rates that the BPU apparently viewed as excessive. The pre-emptive PURPA protection afforded by the court’s decision is closely based upon FERC’s standards for QF status.¹⁴ As a result, the court struck down the BPU effort to “investigate” the PPA rates as a preempted attempt to “impose electric utility-type regulation over QFs.” *Id.* at 1193. The court relied upon the PURPA exemption for “State laws and regulations respecting the rates, or respecting the final or organizational regulation of electrical utilities or from any combination of the foregoing.” 16 U.S.C.A. §824a-3(e)(1).

Section 1253 of the Energy Policy Act of 2005 (EPAAct), Congress added a new section 210(m) to PURPA, permitting the FERC to terminate the obligations to buy and sell in any market in which it determined that adequate competitive sources of purchase or supply were available. Section 210(m) provides for termination of an electric utility’s obligation to enter into new power purchase contracts with QF’s (including small power and renewable production

¹⁴ For example, the opinion notes that

Pursuant to PURPA’s requirements, the FERC issued regulations which defined the minimum operation and efficiency standards that cogeneration facilities must meet and the benefits to which they are entitled. The regulations also authorize the FERC to revoke QF status for non compliance with its application and empower the FERC to waive [such] standards upon a showing that the QF produces significant energy savings. ... Thus, PURPA and the implementing regulations establish an extensive federal system to encourage and regulate the sale of electrical energy by QFs.

44 F.3d at 1191 (emphasis added; citations omitted).

facilities) if FERC finds that the seller has non-discriminatory access to:

(A) an independently-administered, auction-based day-ahead and real-time wholesale markets, and wholesale markets for long-term sales of electric energy and capacity; or

(B) transmission services provided by a FERC-approved regional transmission entity, and competitive wholesale markets that provide a meaningful opportunity to make long- and short-term sales of energy and capacity; or

(C) wholesale markets for the sale of electric energy and capacity that are of “comparable competitive quality” to the markets described above.

On October 20, the Federal Energy Regulatory Commission (FERC) issued Order No. 688, a final rule implementing § 210(m). Order No. 688 took effect on January 2, 2007.

Order No. 688 creates a series of rebuttable presumptions. In sum, these new rules provide that any utility located in several specified power pools including PJM will be rebuttably presumed to qualify for relief from the must-buy requirement only with respect to QFs larger than 20 MW. With respect to other markets, and with respect to all QFs 20 MW or smaller – which includes almost all solar PV projects -- it is rebuttably presumed that they do not have non-discriminatory access to the markets described in § 210(m), and thus electric utilities continue to be subject to the “must-buy” requirement with respect to such smaller QFs, including solar QFs. The utility bears the burden of showing that it qualifies for relief from the must-buy requirement.

The burden of overcoming the presumption is not a simple task. An electric utility seeking relief from the mandatory purchase requirement must file an application at FERC making an affirmative showing that it satisfies the requirements of § 210(m) in its service territory. An electric utility must include in its application existing transmission studies, system impact studies

for generation interconnection agreements, and other material relevant to determining whether transfer capability is available to a QF. The electric utility must also provide notice of its application to all potentially affected QFs.

Thus, unless a utility chooses to proceed at the FERC, the obligation to purchase will remain in effect for nearly all QF solar facilities.



Performance:

System Size	250 KW (STC) =	200 KWac
Capacity Factor	15.3%	
Performance degradation, %/yr	0.4%	

Cost:

PV System Cost per Watt (STC)	\$6.50
PV System Gross Price:	\$ 1,625,000
NJCEP Rebate	\$0
Other Incentives	
Other costs	\$ -
Net Cost:	\$ 1,625,000

Financing:

% Downpayment:	0%	\$0
% Loan:	100%	\$1,625,000
Initial interest rate on loan (%):	7.00%	
Term of loan (full yrs):	15	

Key Rates:

Initial Utility Electricity Price per kWh:	\$0.120
General Inflation Rate, %/yr:	1.5%
Electricity Price Inflation, %/yr	3.5%
Years SREC Qualification Life	8
Ave. SREC price as % of SACP	80%
Maintenance reserve as % of capital	0.8%
Discount Rate for Present Value	10.0%
Federal Tax Rate:	35.0%

Economic Analysis:

	Year																									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Rates:																										
Utility Electricity Price	0.120	0.124	0.129	0.133	0.138	0.143	0.148	0.153	0.158	0.164	0.169	0.175	0.181	0.188	0.194	0.201	0.208	0.215	0.223	0.231	0.239	0.247	0.256	0.265	0.274	
SACP	525	513	502	491	480	470	459	449	439	429																
SREC Price (\$/MWH)	420	410	402	393	384	376	367	359	0	0																
Annual Electrical Production, kWh	267,900	266,828	265,761	264,698	263,639	262,585	261,534	260,488	259,446	258,408	257,375	256,345	255,320	254,299	253,281	252,268	251,259	250,254	249,253	248,256	247,263	246,274	245,289	244,308	243,331	
Operating Revenue:																										
Avoided Electricity Purchases	32,148	33,140	34,163	35,217	36,304	37,424	38,579	39,770	40,997	42,262	43,566	44,911	46,297	47,725	49,198	50,717	52,282	53,895	55,558	57,273	59,040	60,862	62,740	64,677	66,672	
Benefits of Building Integration, if any	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Solar Renewable Energy Certificates	112,518	109,506	106,730	103,973	101,237	98,732	96,035	93,567	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Maintenance Reserve				-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	-12,188	
Total Operating Revenue:	144,666	142,646	140,892	139,190	137,541	123,969	122,427	121,150	28,809	30,075	31,379	32,723	34,109	35,538	37,011	38,529	40,094	41,708	43,371	45,085	46,853	48,675	50,553	52,489	54,485	
NET REVENUE BEFORE DEBT & TAXES:	144,666	142,646	140,892	139,190	137,541	123,969	122,427	121,150	28,809	30,075	31,379	32,723	34,109	35,538	37,011	38,529	40,094	41,708	43,371	45,085	46,853	48,675	50,553	52,489	54,485	
Tax Burdens and Benefits																										
Federal Tax Credit	487,500																									
Bonus Depreciation	0																									
MACRS	96,688	154,700	92,820	55,692	55,692	27,846																				
Interest deduction	39,813	38,228	36,533	34,719	32,778	30,701	28,479	26,102	23,558	20,835	17,923	14,806	11,471	7,903	4,085	0	0	0	0	0	0	0	0	0	0	
Tax on net revenue & avoided cost	-50,633	-49,926	-49,312	-48,717	-48,139	-43,389	-42,849	-42,402	-10,083	-10,526	-10,983	-11,453	-11,938	-12,438	-12,954	-13,485	-14,033	-14,598	-15,180	-15,780	-16,398	-17,036	-17,694	-18,371	-19,070	
Total Tax Benefit (+) or Burden (-)	573,367	143,002	80,041	41,694	40,331	15,158	-14,370	-16,301	13,474	10,309	6,940	3,353	-467	-4,535	-8,869	-13,485	-14,033	-14,598	-15,180	-15,780	-16,398	-17,036	-17,694	-18,371	-19,070	
NET REVENUE AFTER TAX:	718,033	285,648	220,933	180,885	177,872	139,127	108,057	104,849	42,284	40,384	38,319	36,076	33,642	31,003	28,142	25,044	26,061	27,110	28,191	29,305	30,454	31,639	32,859	34,118	35,415	
PRESENT VALUE OF NET REVENUE:	1,597,634																									
Debt Service:																										
Equipment Loan Principal Payments	-64,666	-69,193	-74,036	-79,219	-84,764	-90,698	-97,047	-103,840	-111,109	-118,886	-127,208	-136,113	-145,641	-155,836	-166,744	0	0	0	0	0	0	0	0	0	0	
Equipment Loan Interest Payments	-113,750	-109,223	-104,380	-99,197	-93,652	-87,718	-81,370	-74,576	-67,308	-59,530	-51,208	-42,303	-32,775	-22,581	-11,672	0	0	0	0	0	0	0	0	0	0	
Total Payments	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	-178,416	0										
NET REVENUE AFTER TAXES & DEBT:	-190,793	539,617	107,232	42,517	2,469	-544	-39,289	-70,359	-73,567	-136,132	-138,032	-140,097	-142,340	-144,774	-147,413	-150,274	25,044	26,061	27,110	28,191	29,305	30,454	31,639	32,859	34,118	35,415
CUMULATIVE NET REVENUE BY YEAR:	539,617	646,849	689,366	691,834	691,290	652,001	581,641	508,074	371,941	233,909	93,812	-48,528	-193,302	-340,715	-490,989	-465,945	-439,884	-412,774	-384,583	-355,278	-324,824	-293,185	-260,326	-226,208	-190,793	



Performance:

System Size	8 KW (STC) =	6 KWac
Capacity Factor	15.3%	
Performance degradation, %/yr	0.4%	

Cost:

PV System Cost per Watt (STC)	\$7.75
PV System Gross Price:	\$ 62,000
NJCEP Rebate	\$24,000
Other Incentives	
Other costs	\$ -
Net Cost:	\$ 38,000

Financing:

% Downpayment:	0%	\$0
% Loan:	100%	\$38,000
Initial interest rate on loan (%):	6.50%	
Term of loan (full yrs):	10	

Key Rates:

Initial Utility Electricity Price per kWh:	\$0.140
General Inflation Rate, %/yr:	1.5%
Electricity Price Inflation, %/yr	3.5%
Years SREC Qualification Life	10
Ave. SREC price as % of SACP	80%
Maintenance reserve as % of capital	1.0%
Discount Rate for Present Value	10.0%
Federal Tax Rate:	30.0%

Economic Analysis:

	Year																								
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Rates:																									
Utility Electricity Price	0.140	0.145	0.150	0.155	0.161	0.166	0.172	0.178	0.184	0.191	0.197	0.204	0.212	0.219	0.227	0.235	0.243	0.251	0.260	0.269	0.279	0.288	0.298	0.309	0.320
SACP	525	513	502	491	480	470	459	449	439	429															
SREC Price (\$/MWH)	420	410	402	393	384	376	367	359	351	344															
Annual Electrical Production, kWh	8,573	8,539	8,504	8,470	8,436	8,403	8,369	8,336	8,302	8,269	8,236	8,203	8,170	8,138	8,105	8,073	8,040	8,008	7,976	7,944	7,912	7,881	7,849	7,818	7,787
Operating Revenue:																									
Avoided Electricity Purchases	1,200	1,237	1,275	1,315	1,355	1,397	1,440	1,485	1,531	1,578	1,626	1,677	1,728	1,782	1,837	1,893	1,952	2,012	2,074	2,138	2,204	2,272	2,342	2,415	2,489
Benefits of Building Integration, if any	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar Renewable Energy Certificates	3,601	3,504	3,415	3,327	3,240	3,159	3,073	2,994	2,917	2,841	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maintenance Reserve						-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380
Total Operating Revenue:	4,801	4,741	4,691	4,642	4,595	4,177	4,133	4,099	4,067	4,039	1,246	1,297	1,348	1,402	1,457	1,513	1,572	1,632	1,694	1,758	1,824	1,892	1,962	2,035	2,109
NET REVENUE BEFORE DEBT & TAXES:	4,801	4,741	4,691	4,642	4,595	4,177	4,133	4,099	4,067	4,039	1,246	1,297	1,348	1,402	1,457	1,513	1,572	1,632	1,694	1,758	1,824	1,892	1,962	2,035	2,109
Tax Burdens and Benefits																									
Federal Tax Credit	2,000																								
Bonus Depreciation																									
MACRS																									
Interest deduction	741	686	628	565	499	428	353	273	188	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tax on SREC revenue	-1,080	-1,051	-1,025	-998	-972	-948	-922	-898	-875	-852	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Tax Benefit (+) or Burden (-)	1,661	-365	-397	-433	-473	-519	-569	-625	-687	-756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET REVENUE AFTER TAX:	6,462	4,376	4,294	4,209	4,122	3,657	3,565	3,474	3,380	3,283	1,246	1,297	1,348	1,402	1,457	1,513	1,572	1,632	1,694	1,758	1,824	1,892	1,962	2,035	2,109
PRESENT VALUE OF NET REVENUE:	30,895																								
Debt Service:																									
Equipment Loan Principal Payments	-2,816	-2,999	-3,194	-3,402	-3,623	-3,858	-4,109	-4,376	-4,660	-4,963	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	-2,470	-2,287	-2,092	-1,884	-1,663	-1,428	-1,177	-910	-626	-323	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Payments	-5,286	-5,286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
NET REVENUE AFTER TAXES & DEBT:	1,176	-910	-992	-1,077	-1,164	-1,629	-1,721	-1,812	-1,906	-2,003	1,246	1,297	1,348	1,402	1,457	1,513	1,572	1,632	1,694	1,758	1,824	1,892	1,962	2,035	2,109
CUMULATIVE NET REVENUE BY YEAR:	1,176	266	-726	-1,803	-2,967	-4,596	-6,317	-8,130	-10,036	-12,039	-10,792	-9,495	-8,147	-6,745	-5,289	-3,775	-2,203	-571	1,123	2,881	4,705	6,598	8,560	10,594	12,704

EVCO Mechanical Corporation
44 Standish Avenue
West Orange, NJ 07052

Honorable Kristi Izzo
Board Of Public Utilities
Two Gateway Plaza
Newark, NJ 07101

June 21, 2007

Dear Secretary Izzo,

RE: The Solar Market Transition Straw Proposal

Expansion of my comments at the BPU hearing on June 7, 2007

I am here speaking as an advocate for solar electric expansion in New Jersey. I work for the Solar Solutions Department at Evco Mechanical Corp., a solar design and installation department.

Over the past year the solar industry in NJ has been at a virtual standstill, we have experienced layoffs and company closings in a market that until recently was growing at an impressive rate. That growth was the result of the very successful CORE program, which was so successful that it has become over-subscribed. It is worth noting that the commercial sector is grossly over-subscribed.

The reason for this is the same reason that the new California program fully booked participants for a three year program in three months. It was and is too rich for the commercial sector. Under the present CORE program a cash rich corporation that buys a 700 kW PV system will get \$1,570,500 in rebates and \$1,890,000 in federal tax credits plus accelerated depreciation. That means they are paying less than \$2 million for a \$6.3 million dollar system. That rebate money could have been used to rebate 50 residential systems that really needed the assistance.

In the light of this slow down and subsequent desire on the part of the BPU to re-design your solar initiative, industry leaders have been meeting with the objective of suggesting alternative models for consideration. We have met many times and analyzed many scenarios. Spreadsheets have been emailed back and forth, commented on, annotated and argue about. The first consensus among us was that one model will not work for all the market segments that need to be served.

We are not dealing with one market. We are dealing with several market segments that have very different characteristics and very different needs

The **residential sector** must have rebates for now. We all realize that rebates will be phased out at some time, but now is not the time. PV is expensive, the price of panels is not coming down any time soon and if you want to meet the RPS you are going to have to continue with realistic rebates. Meetings with potential residential clients has overwhelmingly shown that we cannot expect homeowner to plop down the full cost of a solar PV system and wait to make their investment back in electrical savings and SREC income. It should also be noted that many homeowners will not be able to take full advantage of the new Federal ITC if it is approved. Since SREC's are not securitized the only viable financing for homeowners are Home Equity Loans.

The **commercial sector** is a different story entirely. They can take advantage of the ITC and accelerated depreciation. They have easier access to financing, but with SREC's as the revenue stream that financing may not materialize because SREC's are not securitized. Also we need to remember that these are businesses with very rigid financial expectations. Anything more than a 5 year payback and they begin to say, "we can put our money to better use."

The **public sector and the non-profit sector** really need to be treated as one market sector. They cannot take advantage of tax credits or accelerated depreciation; they have limited access to financing and in this day and age are cash poor. To simply relegate them to the PPA market is a gross injustice. PPA's may be a piece of the puzzle in meeting the RPS but they are not a particularly good deal for the end user.

So we have three sectors of the market with very different characteristics and very different expectations. The straw proposal does not adequately address any of these market sectors.

The **PSEG filing** is a model that also does not address all market sectors. While it is wonderful to see PSEG stepping to the plate and getting involved in solar, their proposal is not a good deal for anyone but PSEG. They get all the SREC's and leave the buyer with only the electrical savings as a revenue stream to pay off the remainder of the system. It is extremely rich for PSEG and extremely limited for the client. It places all the risk on the buyer and all the expense on the ratepayer. It may be effective for the commercial sector [with their potential tax advantages] but it is onerous for the residential sector and totally impractical for the public/non-profit sector where payback periods approach 30 years.

The **SREC-Only Pilot** has shown itself to be a total flop. Six applications have been received, only one has been accepted. None of the applications have come off the queue. The Summit Blue Report concludes that the SREC only model is the most expensive for the ratepayer. The only reason I can come up with for the BPU staff's tenacious adherence to SREC models is "the cash flow mentality". "Even if it does cost the most overall it doesn't cost us much this year."

So, what of the Straw Proposal?

Overall my major objection to the straw is that it is totally based on the SREC, which is not secured. Besides being extremely expensive it is a whole new trading market with cutoff dates and the risk of not being able to sell your SREC's at all. Last year 1600 SREC's were retired because the sellers could not find buyers in time. This year indications are that we will also have

more SREC's than the market needs; prices have already begun to fall. Add to that the unfairness of retroactively changing the vintages of SREC's for systems that are already in the ground and you will have lawsuits for years.

For the residential market the Straw does retain a rebate. But it reduces it on two levels. First the rebate rate is reduced in the first year and doubly reduced by calculating the rebate on the basis of electrical performance rather than DC system size. At \$3.00 per watt performance based AC we actually have a reduction from \$3.80 per watt DC system size to \$2.57 per watt DC installed. Systems and panel are sold on the basis of DC installed. For a 7 kW DC system a homeowner can expect to pay about \$56,000 and currently get a rebate of \$26,600. Under the straw the rebate drops to about \$17,920.

That's roughly a 33% reduction in the rebate. Too much, too fast, particularly considering the aggressive proposed reductions down the road as proposed in the straw proposal. We all agree that rebates must be reduced over time but there has to be a balance between what the homeowner is willing to layout and the benefits they will receive. Solar Panel prices have not come down and will not be coming down dramatically for some time. If you reduce the rebate level while the prices of panels are not being reduced you are asking for a stall in the industry that will result in us not meeting the RPS.

For the commercial sector with no rebates but with all options for tax advantages you would think it would be a viable model. Working out the numbers it's about a ten year payback. The business mentality will do something else with the money unless the company is driven by environmental altruism.

For the public/non-profit sector the Straw is a total disaster with paybacks approaching 30 years. As I said before, leaving them with only the PPA option is not right, they are ratepayers also.

If we were to stick with something that looks like the Straw Proposal and if we recognize that we need a model flexible enough to serve all three market sectors we have a problem. The only way to level the payback for the three market sectors with the existing Straw Proposal would be to have different classes of SREC's or different SREC vintages. Both of these approaches are cumbersome and far too complex if we want to adhere to the "keep it simple" concept.

There is however one model that allows for the flexibility we need. It is also rated by the Summit Blue report as one of the least expensive. That is the tariff model, which can offer different tariffs for different sectors of the market, different sizes of systems and different geographical locations [to address high grid traffic regions]. **By adding a tariff component to the existing mechanism you will be able to tailor incentives in each of the market segments and introduce a level of market control that is sorely needed.**

The question of whether the BPU has the authority to create a tariff has come up with some confusion. The staff has on occasion claimed that it can't be done without legislative change while the DAG at the June 7th hearing said that no finding had been made. A simple reading of EDECA and the associated case law dealing with the authority of public utility boards to make these kinds of decisions is quite clear. You do have the authority [and some would say the

responsibility to take actions for the public good] to create a solar renewable energy tariff system without legislative changes to EDECA. [See the review of these issues submitted separately by Bill Potter and Advanced Solar Products Inc.]

The model that will work to level the payback period for the three different sectors of the market is quite simple and flexible:

Basically keep the system you now have in place, but with rebates for small systems only and add a Tariff component to it as a mechanism to adjust the payback terms for different market sectors. For example, create a rebate for small systems where the entity getting a rebate gets SREC's at present SACP levels and a tariff at a long term contracted rate. Entities not getting a rebate would get SREC's at present SACP levels and a tariff at a different long term contracted rate. In this case the tariff rate can be different for different sectors of the market as well as for different sized systems and for other factors. It might prove beneficial to award a higher tariff for installations in grid-congested areas to alleviate supply problems. This allows for a very flexible system that can be tailored to the needs of the situation at hand. It also securitizes part of the revenue stream for all solar investors easing the path to financing. Existing SREC participants would have no need to participate in the tariff portion of this plan, as nothing would have changed for them.

If I might reiterate my major points:

- 1. We need a system that will address fairly all three market sectors.**
- 2. The public and non-profit sectors should be treated the same since both are not eligible for tax advantages.**
- 3. Small systems should get a rebate. The rate of rebate should be reduced annually through the end of this 4 year plan.**
- 4. The SREC/tariff model with a rebate for small systems is the only model flexible enough to meet your objectives.**
- 5. The BPU does have the power to institute a tariff system within the limits of EDECA and existing case law as long as you do not alter the workings of the RPS and SREC market.**

Sincerely yours,

Peter Robilotta

Peter Robilotta
Solar Solutions
EVCO Mechanical Corporation
973-324-7000 (office)
973-986-7793 (cell)
probilotta@evcomechanical.com
www.evcomechanical.com

Honorable Kristi Izzo
Board Of Public Utilities
Two Gateway Plaza
Newark, NJ 07101

June 21, 2007

Dear Secretary Izzo,

Thank you for the opportunity to present my comments regarding the New Jersey Board of Public Utilities' Solar Renewable Energy Market Transition Straw Proposal. We are at a critical juncture in the program right now and the direction we choose will dictate how successful the New Jersey Clean Energy Program (NJCEP) will be in the years to come.

As a solar integrator EVCO Mechanical is obviously concerned that the solar market continues to grow in New Jersey. But our motivations are not limited to our own self-interests. Rather we see the bigger picture and the critical need to invest in our future. Renewable energy and conservation are the two best options we have available today to address issues like global warming, waning supplies of fossil fuels, inadequate electrical facilities and grid congestion.

But let me start off by first describing the present status of the NJCEP CORE Program:

- The solar market is now experiencing a 15 - 24 month delay in new installations due to funding limitations and the allowing of the establishment of a queue!
- As a result we have a waiting line (queue) that will take us through not only 2007 but 2008 as well!
- We have lost jobs due to layoffs and business closures
- We have lost solar integrators
- We have created a barrier to enter the NJ solar market due to the delays
- All of these factors have resulted in higher prices and fewer choices to the consumer!

Given the status of the NJ Clean Energy Program the solution we choose for this transition is critical and cannot be a band-aid approach. We have lost the confidence of the market and whatever we decide must regain this confidence so we continue to make these important investments in renewable energy! No interim solution will work because it will not re-establish the necessary confidence this market requires to continue to grow.

We must also understand that there are no 'one-sized fits all solutions'. The needs of the various sectors (Residential, C&I and Public/Not for Profit) are quite diverse and our solar transition solution must be flexible enough to meet these diverse needs. For example, if we were to select a solution that increased SREC values alone. This would address the needs of the C&I sector but it would not make the Residential and Public Sectors economically viable because of the large upfront costs and the lack of being tax

This memorandum contains advisory, consultative and deliberative material and is intended only for the person(s) named as recipient(s).

advantaged. The SREC only solution 'paints' the market with too broad a brush stroke and does not have the granularity to address the specific needs of these diverse market segments. Therefore we must be careful in developing a solution that has the flexibility to not only meet the needs of these market segments but also meets the changing needs of the market in general.

We understand that this straw proposal is not necessarily the solution that the commissioners will ultimately select. However 'perception is reality' and this straw proposal is the only option being floated to the public. Unfortunately, the BPU proposed solution does not come close to addressing the needs of the various market sectors and market conditions.'

First and foremost the BPU has ignored the conclusions presented in the Summit Blue report in terms of the economic payback necessary for investments in solar for each market segment. They also moved from their stated objective of a 10 year payback to a 12 year payback. This will not work! As clearly stated in the Summit Blue report the various market segments are looking for payback much less than specified in the BPU's Straw Proposal. They state that the Residential market is looking for a 5-7 year payback and the C&I market is looking for an even more aggressive payback. We will not stimulate the growth necessary to reach our RPS goals!

The rebate/SREC model promoted by the Straw Proposal is a flawed model that addresses less than 2/3 of the market. For residential solar the combination of rebates and SRECs does address this market segment and the SREC only plan for C&I solar adequately addresses this segment.

However, there are two segments this plan fails to support adequately and as a result makes the Straw Proposal not viable for the solar transition. The Not for Profit and Public Sector are severely disadvantaged under this program. The Not for Profit (NFP) Sector is treated as a C&I client under this plan and would, like other commercial clients, get only 8 years of SRECs. However unlike commercial clients, NFPs cannot take advantage of tax credits or accelerated depreciation and their payback under this plan could be in excess of 30 years. This is far longer than the 12 year goal of this plan and considerably longer than what the market is looking for according to the Summit Blue report.

For the public sector, the straw proposal also fails to adequately address this segments needs. Like the NFP, the public sector is not tax advantaged and even though there are two more years of SRECs under this plan the payback for these public systems is still in excess of 25 years. Once again far too long for these users and well in excess of the 12 year target specified by the BPU's Straw Proposal and considerably longer than what the market is looking for according to the Summit Blue report.

To relegate these markets to PPAs is not the answer. Smaller systems (under 100KW) will find it difficult to find investors interested in smaller systems. Most PPA companies target larger systems and will not deal with the under 100 kW market. Also to relegate the public sector and NFPs to having to enter into a PPA significantly disadvantages this segment. The nature of a PPA provider is that of a middleman who also needs to make their share of profit on their agreements. This reduces the benefit that the end user would realize from a solar system. It locks users into a long term agreement with only an incremental benefit to the end user, not the full potential a self-owned solar system would provide.

The following is a simple spreadsheet that illustrates the economics of each of the market segments to support my conclusions:

Sector	System Size	EPB Output (10%)	System Cost	Rebate /Watt	Total Rebate	Tax Incentives	Annual REC's at \$357	Annual Electric Savings	Cost After Rebate	Simple Payback
Residential '07	10,000	9,000	\$80,000	\$3.50	\$31,500	\$2,000	\$3,927	\$1,610	\$48,500	8.4
Residential '08	10,000	9,000	\$80,000	\$3.00	\$27,000	\$2,000	\$3,927	\$1,610	\$53,000	9.2
Commercial	100,000		\$800,000	\$0.00	\$0	\$240,000	\$39,270	\$14,812	\$800,000	16.6
Com. NFP	100,000		\$800,000	\$0.00	\$0		\$39,270	\$14,812	\$800,000	32.8
Public	100,000		\$800,000	\$0.00	\$0	\$0	\$39,270	\$14,812	\$800,000	27.5

As a result of these factors the Straw Proposal does not fairly address the needs of all market segments and an alternative solution is required for the solar transition. In addition this Straw Proposal does not meet the objectives specified by the BPU in their December 12, 2006 document that outlines the general process to transition. In this document it states that "... as the Renewable Energy Portfolio Standards requirements increase if the rebate is the primary mechanism for delivering increased solar the total rebate cost and the cost to ratepayer will increase significantly. Therefore a more efficient mechanism needs to be developed to aid in achieving the RPS goals." However the model outlined in the BPU's Straw Proposal is even more costly than the existing rebate/SREC program according to the Summit Blue Report.

After a careful analysis of the various options it has become clear that the Tariff model is the most flexible solution that can easily address the varied needs of the different market segments. In addition, this model also has the lowest cost to ratepayers (according to the Summit Blue report).

The Tariff model would incorporate the existing SREC program and in a creative manor develop specific tariff levels that can address the needs of each market segment:

For the Residential Market - Instead of raising the SREC value as in the Straw Proposal the SREC (SACP) value can be kept at its present level and the remaining value can be addressed through a production based tariff. Like the California program, an estimated performance based incentive could be used for these smaller systems (under 10KW) and paid as a single, up-front lump sum payment in lieu of a rebate.

For the C&I Market - As with all market segments the SREC (SACP) value would remain as it is today. The remaining portion of subsidy required to attain a reasonable payback would be made up by a production based tariff. The tariff would be adjusted for this market to attain the payback goals of the BPU.

For the Pubic Sector Market - First, I strongly encourage the BPU to move NFPs to the public sector and remove them from the C&I. Since these organizations are both not tax advantaged their economic situations are quite similar and need to be treated in a like fashion. For the public sector market we would maintain the existing SREC (SACP) value and the remaining economic package would be made up by a Tariff set high enough to have the Public Sector be able to attain the necessary payback target as defined in the Summit Blue report.

As previously stated the Summit Blue report establishes that the Tariff model offers the most flexibility with the least cost to ratepayers. It truly levels the playing field for all interested parties and does not disadvantage any group as does the Straw Proposal. Why the tariff model was not included in the straw proposal is a real mystery! However as I have outlined, the Tariff model can address the specific needs of the three market segments in a fair and equitable manor.

In addition, this model offers the ability to address other issues as well:

- Fixing the Tariff level can have the effect of scrutinizing this market and allow financial institutions to reduce their risk and make solar financing available to the NJ market. This is a valuable step in evolving to an open market!
- Tariffs can be created to address other issues. For example: a higher Tariff can be created in grid congested regions as an incentive to have increased solar investment in these areas. This can help to reduce grid congestion without the expense of adding additional distribution capacity,
- Tariffs can be easily reduced over time to transition this solar market from a subsidized market to a free market as grid parity is achieved.

Additionally, I strongly recommend that:

- We not set the APC/SACP level until a clear direction for the solar transition is established. How do we know what level will be required if the program has yet to be defined?
- We limit project sizes and entity caps to encourage wider and more diverse participation in this program. The more distributed the solar installations are the greater the impact it can have in reducing grid congestion. Also by limiting size a greater number of interested parties can participate without over-achieving our RPS goals.
- We move to a true production based incentive. This will encourage the installation of more efficient systems and does not reward customers who fail to keep their systems at optimal performance.
- This solutions creates no windfall for existing users and permits the SREC market to continue as it exists today.

Whatever we do today we must understand that this is an investment in our future. Although this program is expensive it is wiser to invest in this today than be faced with fewer options in the future and a much higher price tag! We are at a critical juncture and we cannot lose the momentum created by the past success of the NJCEP Core Program. I might add that this is a very sound investment in our future and moves us closer toward energy independence.

More importantly we must take immediate steps to regain the momentum the CORE program initially generated. Interest in solar is waning due to the very long lead times for installation (up to two years). We must regain the confidence of all parties including; prospects, solar integrators and financial institutions if we are to achieve the goals of the solar program specified by the RPS. We need to move away to these 'one size fits all' solutions and look for solutions

Thank you again for the opportunity to comment of the proposed Solar transition plans of the BPU. We all look forward to the successful implementation of a renewable energy plan that will continue to place New Jersey as a leader in the adoption of renewable energy solutions.

Yours truly.

Scott Schultz

Scott Schultz
Solar Specialist
EVCO Mechanical Corporation
44 Standish Avenue
West Orange, NJ 07052
(973) 324-7000

The New Jersey Housing & Mortgage Finance Agency (HMFA) and its Green Homes Office would like to make a brief comment on the New Jersey Board of Public Utilities' Solar Renewable Energy Market Transition Straw Proposal. At HMFA, we are dedicated to increasing the availability of and accessibility to safe, decent and affordable housing to families in New Jersey. This includes working to provide resource efficient, healthy and affordable new construction and rehabilitated housing opportunities.

We have been fortunate to partner with the BPU Office of Clean Energy on our SUNLIT program, which makes solar energy a viable option for affordable housing rental properties. OCE has granted the SUNLIT program an allocation of solar rebate funds for the past year that continues into this year. Affordable housing construction and operating budgets are typically tight, and these rebates have gone a long way to convince developers and owners to go forward with a product that has a longer payback than they (or their investors) are usually willing to risk.

Our comments can be summarized as follows: 1) maintain the rebates for affordable housing projects, as is now planned for the under 10k market or ensure a payback period that is comparable to the current rebate program, and 2) provide more price predictability and lower risk to encourage solar on affordable housing. While these comments focus specifically on affordable housing, we think they may be applicable across the whole market spectrum.

- 1) Maintain rebates and comparable payback. After running a rough comparison of our SUNLIT projects on the payback periods under the current program and under the straw proposal program, we have found that the payback time for our projects would increase significantly under the straw proposal. The majority of the projects participating in the SUNLIT program are multifamily buildings, with solar photovoltaic systems sized at over 20kW. Many developers that we work with already resist participating in SUNLIT under the existing program due to the uncertainty of technology that is new to them. The new proposal will discourage interest in solar renewable energy for our affordable housing projects. The new proposal also relies on a developer accessing the Federal Investment Tax Credit. Many of our project sponsors are nonprofit developers that cannot take advantage of this benefit. The alternative that addresses this issue, Power Purchase Agreements, may not be a good value for owners in the long run.
- 2) Price predictability. Another aspect of the straw proposal that causes serious concern is the lack of security on SREC values. It is difficult to work up a financing package with a developer, and convince them of the value of installing solar if the primary source of their payback has a volatile value. This makes even HMFA hesitant about underwriting projects that have SRECs as a source of funding. As we have recently seen, the supply and demand and therefore the pricing of SRECs is far from predictable. We are also concerned about the dynamic that the SACP rates will have on the SREC market. How these rates are set will have a direct impact on SREC values. The current proposal shows the SACP rates trending down, which implies that value of the SRECs that is in essence capped by the SACP rates will also be forced down.

We strongly support the continued encouragement of solar on all properties, and in particular on affordable housing projects. We understand that the tariff model is still being seriously considered. This model seems to offer the necessary incentives to affordable housing developers that we can promote.

Thank you for the opportunity to be a part of the solar transition process. We look forward to working together on the final solution.



RENEWABLE ENERGY PROVIDER

Honorable Kristi Izzo
Board of Public Utilities
Two Gateway Center
Newark, NJ 07101

RE: Renewable Portfolio Standard – Docket No. EO0600744

Dear Secretary Izzo:

On behalf of Soltage, Inc, please accept the following comments on the Office of Clean Energy Staff’s Straw Proposal on the Solar Alternative Compliance Payment (SACP).

OVERVIEW

Soltage is a full service renewable energy company that develops and operates solar energy stations on client structures across the USA. Using proven technology and on-site generation, Soltage supplies a significant portion of client long-term energy demand. Soltage is headquartered in Jersey City and is expanding its service offering broadly throughout the state of New Jersey – leveraging investment dollars to construct valuable electricity generation assets, allowing institutions to utilize in-state power, and creating employment opportunities in finance, sales, and construction sectors. Soltage has been actively engaged in the solar programs in New Jersey through its participation in NJ CEP and Energy Task Force meetings.

To those ends Soltage advocates strongly to see a New Jersey market that functions efficiently – from both an economic point of view as well as from a practical marketplace standpoint. Questions of marketplace functionality, ability to attract and retain investment, and transaction costs are all highly relevant to this discussion – and the processes undertaken in New Jersey through the BPU’s Renewable Energy Committee as well as through external consultant input such as Summit Blue’s analysis have paved the way for a clean and efficient market to be up and running in short order.

There is indeed great ability to efficiently and equitably assist the State with installing the needed capacity under the State’s aggressive Renewable Portfolio Standard (RPS) requirements. The decisions to be undertaken in the next few months seem to represent the final 1% of the efforts that have gone into this process – a process whose outcome will be critical to the finalization of a robust and well-functioning market that will allow New Jersey to move forward as a solar leader nationally and globally.

The “straw proposal” being commented upon encapsulates a number of good points and themes. There are ideas that have been vetted through a number of processes that should indeed be present in the final market infrastructure. A number of new facets have arisen in this proposal, however, which are unproven, untested, and potentially disastrous to a number of the market goals – such as attracting and retaining investor interest, and

creating a market with minimal regulatory uncertainty – and we recommend that these aspects be reassessed with great diligence to allow this process to progress smoothly.

SREC Property Rights

Our company spends approximately 60% of our time working on various financing strategies that allow us to offer the *service* of Solar Electricity to clients who would otherwise be unable or disinclined to purchase and install these systems. Our clients are comfortable and in fact eager to purchase the generated electricity, but would not contemplate ownership of the generation asset itself. Our 3rd party ownership and service model effectively allows for a greater uptake of solar in the states that we work in – and a linked achievement of state, business, and consumer goals.

The Soltage model is premised upon the efficient financing of these expensive systems which we accomplish by structuring Soltage and our financial partner's investment in these systems through a long term approach. This approach is predicated upon two main things in states such as New Jersey – cash flows that come from the client's purchase of the electricity, and cash flows coming from the sale of environmental attributes such as Solar Renewable Energy Certificates (SRECs).

As many reports have cited – **stability, longevity, and transparency** in the property right creation surrounding both of these two commodities (electricity and SRECs) is critical to bring down the risk associated with investment in these markets and to allow financial players to enter into this market at scales needed to realize stated goals.

As the commodity of electricity as defined by the kWh has a rich transactional and regulatory history there are no issues surrounding the current state of the kWh property rights. The NJ SREC, however, with its recent creation and limited transactional history is the first and oftentimes only area that financiers look to when examining the investment potential in markets such as NJ. The straw proposal raises some very new and disruptive facets vis a vis the currently held definition of the SREC property right.

SPECIFIC POINTS

1. Projects based on SRECs with a Qualification Life are not financially viable

The SREC qualification life, while an interesting market concept, is regarded by us and our financial partners as a complete 'non-starter'. To give SRECs various expiration horizons raises numerous issues related to transactional realities, valuation of these SRECs, and current/future regulatory risk that these many closely related commodities would be subject to.

In particular, limiting the qualification life of the SREC especially limits access to debt financing, where contracted cash flows from the SRECS must align to debt financing terms – which are typically 15 years for solar projects in New Jersey. Sustainable growth

of the solar industry and achievement of the NJ RPS relies on the functionality of adequate debt instruments in the market.

Looking to markets where emissions compliance products have functioned well there are no widespread and successful examples of this qualification life and given the youthful state and currently thin transactional volume of the NJ SREC market this seems like a time to push for greater stability through a single, more liquid commodity as opposed to the opposite.

If the BPU is looking to exercise control over the value of the certificates, changing a global variable such as the SACP would be the appropriate mechanism – not the underlying asset being traded. It is understood what this ‘qualification life’ is trying to achieve but it is also true in *any* market varying costs of goods, costs of capital, and issues of scale will lead to one company being more efficient than the other, or one segment of the population easier to serve than the other. Given this reality it is incumbent upon the market promulgators to create a market that works well for as much of the market as possible and to allow it to function openly and transparently.

Qualification life and a segmentation of the SREC into differing value/asset classes is an issue that can hopefully be resolved quickly and efficiently in the upcoming processes. As NJ looks to transition the benefits to solar from a rebate model to a private-market performance model where the value is in the form of SRECs, it cannot be emphasized enough that the clear definition of a single SREC commodity is critical to the advancement of the NJ Solar market as a whole.

2. SREC value should support long-term market growth

A number of publicly available studies conducted by the State of New Jersey as well as through academic, industry, and trade entities have validated the fact that, given the current price of solar technology and installation, the SRECs need to be valued at approximately \$500 each on a liquid marketplace. The proposed 8 year SACP schedule – while appreciated in its temporal length – would not allow for a market where SRECs trade at or near \$500 on a current dollar basis. This is problematic but easily rectified by increasing the SACP to a value that encourages a \$500 SREC.

3. SREC vintage should be extended

Soltage supports a three year SREC vintage. With a one year vintage, SRECs that are not transacted essentially get ‘left on the table’ – with both SREC producers and load serving entities impacted by the lack of transaction. Those most prone to leave SRECs on the table are the smaller and underserved segments of the market – residential and small commercial – who do not have the market sophistication to optimally transact certificates.

By opening up the SREC vintage life a number of other players would be encouraged to enter the NJ SREC market such as brokers and aggregators in addition to the banks referenced earlier in the comments. A three year vintage, alongside clear property rights would increase the demand for individual SRECS through an ability to bank, hold, aggregate, and contract their value over greater time and to a larger pool of potential purchasers. This greater value would encourage buyers of SRECs to better serve residential and small-commercial sectors and increase the probability that fewer SRECs were left 'on the table'.

4. SACP Schedule

A long-term SACP Schedule is desirable to all parties. A market does not function properly without knowledge about the future costs of non compliance, as this knowledge impacts the value of the NJ SRECs. Assumptions of projected cost decline in the solar components have been highlighted in a number of relevant studies such as the Summit Blue report and this can be appropriately factored in to a declining need for the value of the SRECs. Given that project finance decisions are made utilizing discount rates and the present value of money, our only note on this section is that the present value of the lifetime SREC value stream should be sufficient to encourage current project development, as referenced in section 2 above.

Community Based Solar System

Comments to this aspect of the 'straw proposal' will be highly conscripted given the limited information supplied. Suffice to say that this is an intriguing model, as pooling systems have been explored in a number of other sectors to great success. Given the maturation of the other ideas explored and the clear potential to achieve solar success under the current market structure, we advise against the late-stage entries of any other models which will require a lengthy vetting and analysis process.

Thank you for consideration of these comments.

Respectfully submitted,

/s/

Jesse Grossman
Chief Executive Officer

/s/

Vanessa E-H Stewart
Chief Operating Officer

3857 20th Street
San Francisco, CA 94114
(415) 314-8042
david@pvnow.com
www.pvnow.com

PV NOW COMMENTS ON THE SACP LEVEL AND STRUCTURE OF THE FUTURE SOLAR MARKET IN NEW JERSEY

JUNE 22, 2007

PV Now is an organization of eight of the larger solar manufacturing and integration firms in the solar industry today¹. We appreciate the opportunity to provide input to the BPU Commissioners on the important issues of the SACP levels and the design of the solar program in the coming years. The resolution of these issues will determine whether the New Jersey solar program will be able to regain its growth momentum.

¹ PV Now members include the following companies: Energy Innovations, Evergreen Solar, Powerlight, Schott Solar, Sharp Solar, SolarWorld, SunEdison and SunPower.



EXECUTIVE SUMMARY

PV Now members suggest that the Commissioners take this opportunity to establish a predictable framework for the New Jersey solar program for the period through 2020. It is critically important that the Board send a strong message to the market about their intent for the program's design so the industry can know what the rules will be for the next ten-fifteen years, and can begin to remobilize the private capital that will be needed to meet the ambitious RPS goals of the State while bringing the values of distributed clean energy to the citizens of New Jersey. Our comments will expand upon the following key points:

1. The solar REC marketplace framework is working. There is a history that has been established over the past four years based on a regulatory definition of solar RECs. It is critical that the Board recognize that making changes to fundamental elements of the market structure (such as limiting generation term life) will increase uncertainty about future regulatory tinkering with the SREC market. The result of this uncertainty will be to discourage new entrants from joining the solar marketplace in New Jersey, thereby limiting competition and raising costs for ratepayers.
2. We agree with the need to provide access to the market for all segments including residential, small commercial, non-profits, public entities, etc. Providing incremental rebates to these classes of customers is the best way to level the playing field and allow fair access to the SREC marketplace.
3. This proceeding should be a first step toward establishing reasonable economic criteria for a transition from rebates to performance based incentives (SRECs). Once this proceeding is concluded and an appropriate SACP schedule adopted, we suggest that the Board convene a Working Group to develop detailed alternatives for instituting

long term SREC securitization. As a first step, the PSE&G securitized solar loan proposal should be analyzed within this open Working Group process and considered as a pilot for one securitization method.

4. We recommend that a long term (8-10 year) SACP schedule be established in the Order. We are also suggesting that the SACP be set to decline 3% annually.
5. The level of the SCAP must be set in conjunction with the SREC generation life term. If the Board, contrary to our recommendation, decides to establish a limited generation term for SRECs, the SACP must be raised accordingly. In the body of our comments, we have provided charts showing our SACP recommendations.

PV NOW COMMENTS ON THE SACP LEVEL AND STRUCTURE OF THE FUTURE SOLAR MARKET IN NEW JERSEY

There are a number of concepts and principles contained in the BPU Staff Straw proposal that are positive and will contribute to the growth and development of many segments of a solar market. At the same time, there are concepts in the Straw that could substantially impede the development and growth of the New Jersey solar market.

Some of the examples of items we support in the Straw include:

1. Rebates for smaller systems

Rebates will allow residential customers to participate in the New Jersey solar program on an equal footing with larger customers. We recommend that the Board consider adding systems up to 40 kilowatts to those eligible for rebates. The rebates should be set at levels that provide an economic equivalency between these smaller systems (with their higher installation costs) and larger projects (with relatively lower installed cost). A program that combines rebates and SRECs for smaller systems and only SRECs for larger systems will effectively create an SREC commodity and allow both large and small system owners to sell their SRECs into the same market. We will not be recommending specific rebate levels in these comments since this will be covered in more detail during the CRA proceedings regarding the extension of the SBC funds for renewable energy.

We support the current BPU policy goal of allowing all segments of the market to participate in the solar program. Although this is not a policy that encourages the lowest possible solar program cost, there are larger policy goals at stake. We find continuing public value in a

diverse solar market that includes residential customers, public entities, non-profits, etc. as well as larger commercial projects. This diverse solar market can be enabled by providing supplemental rebates for smaller systems with higher installation costs (i.e. residential and small non-profits) to combine with SREC revenue.

The economic principle that should drive solar policy in New Jersey is that the combination of SREC revenue over the generation life of the project and upfront rebate payments should equal a net present value (NPV) of total support that will enable both types of projects to go forward while allowing the overall and ever expanding RPS goals to be achieved. The total NPV for a reference 100 Kw solar project built in 2008 should approximate \$4 per watt. Combining rebates tailored to the slightly higher installation costs of smaller scale solar market segments, with the estimated \$4 per watt NPV of SREC revenue, enables small scale and large scale segments to participate equally in the SREC market.

2. In the Staff Straw, two new program ideas were introduced. We support the concept of both the New Home construction (e.g. Zero Energy Home) and community based system programs. These are good ideas that can allow more citizens to choose solar power for their homes, businesses, schools, or churches. We would recommend that consideration of these new programs be done in a separate proceeding since many of the issues raised deserve careful analysis and review.
3. The Straw recognizes that the level of the SACP must be substantially raised in order that projects can be financed with SREC revenue in combination with electricity savings.

Eliminating rebates will necessitate raising the SACP to allow SREC prices to seek an appropriate competitive level and we agree with this proposition.

4. The Straw sets forth a rolling eight year SACP schedule. We agree that publishing such a schedule will send an appropriate, albeit weak, signal to the market regarding regulatory intent and continuation of the solar program roughly in its present form.

Although the above elements of the Staff Straw are positive, there are a number of newly proposed details that could have very negative consequences to the program.

***PRINCIPLE ONE- THE STRAW PROMOTES INAPPROPRIATE AND UNNECESSARY
MARKET TINKERING***

Changing the Rules and SREC Qualification Life

One of the fundamental requirements of a market based system is a commonly held understanding of the “rules of the game”. This is a necessity in order to create a market where people are willing to invest. If customers and developers are concerned that “the rules of the game” will change and their investments will be put at risk from such changes, there will be a reluctance to participate in the market. Since one of the objectives of the New Jersey solar program is to attract significant amounts of private capital to leverage ratepayer investment, such perceptions of changing the rules will increase investor risk, ultimately increasing total program costs and raising the share shouldered by ratepayers.

The Staff Straw introduces a totally new concept into the SREC market, and in fact, to REC markets in general. This is the proposal that different solar generators will have the opportunity to create SRECs for DIFFERENT and LIMITED PERIODS of time (SREC Qualification Life). The Straw suggests limitations ranging from four years (applying to previously rebated commercial systems) to ten years (for non rebated residential projects). Adoption of this concept not only profoundly changes the definition of a solar renewable energy credit (SREC), thereby negatively impacting investor confidence in the ongoing market's integrity and stability, but also changes the definition retroactively for systems already installed. These are systems that have presumably been financed with the assumption that an SREC will always be an SREC as long as solar electricity is produced and many may have contracts in place for long term SREC sales. To change the definition retroactively invites legal challenge and significant market disruption. Challenges to the legality of a retroactive state alteration of contracts could cloud the SREC for years as these actions are resolved.

In the matter of creating varying SREC qualification life terms, we agree with the statement on Page 6 of the Staff Straw, "The market will be best served if it can avoid significantly different systems for solar and non-solar RECs."

PV Now recommends that there be no generation limit established for solar generators. Systems should be encouraged to operate by rewarding performance. This is the best method to ensure that systems will create the clean generation needed to meet the RPS goals and that they will remain operating for their useful life. Shortening the generation life of systems will require much higher SREC prices, and short of changing the RPS, will require substantially more capacity installed to generate the required number of solar megawatt hours.

If the Board decides to follow the Straw idea of limiting generating term life, the term should be twenty years, with fifteen years a less acceptable minimum.

The KISS principle (a recognized principle of simplicity) suggests that all systems have the same generation term. To establish different terms invites misunderstanding and consumer confusion. The cost differentials of various market segments can best be addressed by offering incremental rebates for smaller systems. The key point to remember is that a market is being constructed to enable approximately 1500-1700 MW of solar generating capacity between now and 2021. Complicating the market to address a perceived “windfall profit” that the market’s early adopters (the first 30-80 MW) may see, is counterproductive in the long term. The best strategy for the BPU to avoid windfall profits is to take all steps needed to ensure a fully functioning and robust SREC market. Our proposals herein are dedicated to that proposition.

In the Staff Straw, there was an alternative method of limiting generation term presented. In this approach, the economics of installing a system would be established each year and SRECs from systems installed in one year would have a different generation term life than systems installed in another year.

Although there is probably some combination of analysis, stakeholder debate and regulatory wisdom that theoretically could make such a system work on paper, we believe that such machinations will be counter productive in the longer term. The best program is one that is easily understood, provides long term program and revenue predictability and lets the market

drive cost reduction and overall efficiency of investment. We believe the alternative presented in the Straw violates these fundamental principles. We do not recommend this alternate method of limiting generation term.

Entity Cap- The cap on the amount of capacity that can be installed by any one entity as discussed in the Straw should be removed. The Board has indicated a desire to move to a market based solar program design. Moving to market based mechanisms should not be micro managed. There was a rationale for an entity cap where rebates were available since there was imperfect information and limited awareness of the solar program. Now that we are in a later stage of the market, entity caps lose their compelling rationale.

***PRINCIPLE TWO- THE STRAW'S COMBINATION OF GENERATION TERM AND SACP
VALUES WILL STOP SOLAR PROJECT DEVELOPMENT IN NEW JERSEY***

Customer Economic Parameters

Setting a proper ACP level should be based on an analysis of project development economics. The first step is to anticipate customer buying behavior. What is the payback period that is acceptable to different customers? Finding the right combination of SREC prices and project lifetime that will create these minimum customer paybacks (or IRRs) is key to determining economic feasibility and project viability.

The Straw bases its economic analysis upon a 12 year payback for all market segments. From the experience of the solar industry, this is inconsistent with existing market dynamics. This

conclusion is reinforced by the recently released Summit Blue report commissioned by Board Staff. That report indicated payback periods (correlated with acceptable IRRs) ranging from ten (10) years for residential customers to six (6) years for commercial customers. The determination of required SACP needs to be recalculated based on this real world information.

SACP Ties to Generation Term

If the Board decides (contrary to our recommendation) to establish generation term limits, the SACP must be tied to the specific term limit. In other words, a ten year term limit on the SREC generation life of a system will require SRECs (and an associated SACP) that are much higher cost than a fifteen or twenty year generation term limit. The SACP must be set in conjunction with any term limits and be related to the economic equivalency of projects built under each term limit/SACP scenario. Following is a table showing the relationship between SACP, SREC and generation term.

TABLE ONE- FIRMLY SECURITIZED SREC

Generation Term	5 YR	8 YR	10 YR	15 YR	20 YR
SREC VALUE	\$1210	\$855	\$755	\$630	\$580
SACP	\$1390	\$980	\$870	\$725	\$670

TABLE TWO- SOFTLY SECURITIZED SREC

Generation Term	5 YR	8 YR	10 YR	15 YR	20 YR
SREC Value	\$1370	\$1010	\$920	\$805	\$755
SACP	\$1575	\$1160	\$1060	\$925	\$870

The tables above assume the following factors and use the following definitions:

1. The values are based on a 100 Kw non-public system installed in New Jersey with no rebates. This reference system is eligible for current ITC and accelerated depreciation.
2. The values are based on a customer payback consistent with the Summit Blue report. In the case of the 100 kw system, the payback is six years (12% IRR).
3. The system installed cost is \$7000/Kw (dc), representing current industry averages in New Jersey for commercial systems 100 Kw and less.
4. A firmly securitized SREC is defined as one that has a predictable SREC contract revenue stream achieved through a mandatory LDC or LSE contract or a voluntary contract such as the PSEG loan program filing under consideration at the BPU. This firmly securitized SREC is **not** a part of the Staff Straw.
5. A softly securitized SREC is one that relies only on the existence of a multi year SACP schedule to send signals to the market regarding regulatory intent. This is the SREC concept described in the Straw. Although of some value, it is very likely that such SREC revenue will be discounted by financing providers as they calculate the amount and terms of project financing to be provided. Table Two uses the same discount factors that appear in the Summit Blue report, i.e. Yr. 1-0%, Yr. 2-10%, Yr.3- 15%, Yrs 4-6; 20%, Yrs. 7-8; 30%, Yrs. 9-11; 40%, Yrs. 12 on- 50%.
6. The avoided electricity rate is \$.117/kwh and is consistent with the Summit Blue report.
7. The recommended level of the SACP is 115% of the likely SREC price. This is consistent with current SREC market experience.
8. The SREC and SACP levels decline annually by 3% as per the Staff Straw proposal.

We do not recommend any term limit on the generation of SRECs but urge in the alternative where the Board does impose such a limit, that the Board also clearly establish an SACP schedule for the same number of years as any term limit adopted.

SACP/SREC relationship

A fundamental point in determining the structure of an SREC based solar program is to ensure the economic feasibility of project development. The SACP must be set approximately 10-20% higher than the upper limit of the SREC trading range in order to encourage LSEs to purchase SRECs rather than simply pay the ACP penalty.

Recommended SACP Schedule

As noted above, the SACP can only be set in conjunction with the generation term. The following recommended ten year rolling² SACP schedule is presented in the context of fifteen and twenty year SREC generation terms and assumes there will be no firm securitization put in place as a result of this current proceeding.³ If the final Board order reduces the generation term below fifteen or twenty years, the following schedule must be increased significantly (see Table Two above). If the Board decides to include a method of firm securitization, our recommended SCAP level would be lower (see Table One).

² The concept of a rolling multi year SACP was explained in the Staff Straw and we agree with the concept.

³ Our schedule assumes a 3% reduction each year in the SCAP level as a means to encourage efficiency and reduce ratepayer costs. It also establishes the SACP level approximately at 115% of likely SREC prices as determined through economic modeling and industry experience in New Jersey over the last four years.

TABLE THREE- SACP SCHEDULE

SACP	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
20 yr. term	\$870	\$844	\$819	\$794	\$770	\$747	\$725	\$703	\$682	\$660
15 yr. term	\$925	\$897	\$870	\$844	\$820	\$794	\$770	\$747	\$725	\$703

PRINCIPLE THREE- THE LACK OF SECURITIZATION FOR SREC REVENUE STREAM WILL LEAD TO HIGHER RATEPAYER IMPACTS AND INCREASE THE DIFFICULTY OF ENSURING EQUAL ACCESS OF ALL SEGMENTS TO SREC REVENUE

Impact on Ratepayer Costs

As a number of parties have pointed out in the past, and Summit Blue supported in their analysis of ratepayer impacts of various market approaches, overall ratepayer costs will be lower if there is a method of providing long term revenue stability and predictability to the SREC market. The PSEG solar petition recently filed showed that a fifteen year securitized revenue stream can facilitate customer financing of solar generation at a much lower cost than a non-securitized approach. These lower costs (through reducing risk) can be passed through to New Jersey ratepayers.

Promoting Equal Access to the SREC Market

By adopting a method of securitizing the SREC revenue stream, solar customers and developers representing all market segments will have the ability to participate in the SREC market. Without a securitization method, smaller customers may find it difficult to trade 5-10 SRECs per year. The

LSE's have credit requirements and large company processes that make it difficult if not impossible for small customers to trade with the LSEs. The aggregators that have emerged to address this problem are charging fees that substantially reduce the revenue potential of the SRECs. This creates a market disparity wherein a large SREC owner can receive a much higher net income per SREC than a smaller customer. Providing a long term SREC contract or other securitization method that can be accessed by all customers will help level the playing field and promote equity across customer segments.

Alternative Securitization Methods

A. Voluntary EDC SREC based loans

As noted above, one of the electric distribution companies, PSE&G, has proposed a solar loan program that would offer loans to developers in all market segments, including low income residential consumers, based on an established minimum floor price for fifteen year SREC deliveries.

B. Mandatory EDC long term SREC contracts

An alternative would be a long-term, standard SREC contract between the EDCs and solar customers, with a levelized, fixed price determined yearly by the BPU in a proceeding. Any customer could take advantage of the annual "tariffed contract price" to enter into a fifteen year contract to sell all SRECs generated over that period. EDCs would be required to enter into the contracts and would be assured of rate recovery of incurred costs. The EDCs would turn over or sell the purchased SRECs to LSEs.

Long term LSE SREC contracts

Either within, or outside of, the BGS auction, LSEs would be incented to enter into long term SREC contracts with solar customers.

Underwriter

A private, financially strong entity such as a Wall Street trading firm or carbon fund would be paid a fee to provide floor price guarantees for SRECs over an extended period in order to introduce more price clarity into the long term SREC market.

Immediate Action Needed

None of these approaches were incorporated into the Staff Straw but are critically important for the sustained success of the program. If the BPU decides to initially adopt a softly securitized SREC market model, we believe there should be a working group established immediately to develop recommendations regarding the best form(s) of firm securitization for SREC revenue. Since the PSE&G proposal has already been submitted for Board review, the Working Group should be asked to immediately evaluate the PSE&G proposal as a pilot approach to providing securitization. The solar market is likely to falter if one or more securitization methods are not instituted in the very near future.

INCREASING MARKET FLEXIBILITY

Extend SREC life to two years

The current one year SREC life makes it difficult for LSEs to plan their annual purchases and for solar project owners to match SREC production with SREC supply contracts. Moreover, if there are any “excess” SRECs in the market they are worthless post expiration. This means everyone in the market will try to ensure there is no excess – i.e. the market will always strive to be slightly short. It is self evident that in a short market, commodity prices are higher than normal. Thus a perennial

short market drives SREC prices higher than they would be if the market could accept some “overage”. Allowing SRECs to have a two year life solves this problem and allows the market to accept excess SRECs. In such a market, prices will tend downwards as contrasted with the eternally short market. LSEs (and their consumers) will therefore see lower SREC prices if SREC life is extended to two years.

In the Staff Straw (page 6), one of the reasons given for limiting the vintage of the SREC to one year was, “Longer term vintages will take the pressure off buyers and probably lower prices rather than increasing or stabilizing prices.” As shown above, we agree with this analysis but disagree with the conclusion. We believe that market forces should be allowed to work in the SREC marketplace in order to deliver the required solar generation to meet the RPS goals at the lowest possible cost to ratepayers. Extending the vintage of SRECs to two years (or longer) can help achieve this goal. We note that Colorado allows banking of S-RECs for five years⁴, Maryland’s RPS, under which the S-RECs there will be traded, allows banking for three years⁵ and Pennsylvania will be allowing a minimum of two years for utilities to bank and use their solar RECs.

⁴ Colorado Commission Rule 723-3654(d):

(d) For purposes of compliance with this Renewable Energy Standard, a QRU may generate, or cause to be generated, and count Eligible Renewable Energy for compliance:

(I) For the Compliance Year immediately preceding the Compliance Year during which it was generated, provided that such Eligible Renewable Energy is generated no later than July 1 of the calendar year immediately following the end of the Compliance Year for which it is being counted;

(II) For the Compliance Year during which it was generated; or

(III) For the five Compliance Years immediately following the Compliance Year during which it was generated.

(IV) Eligible Renewable Energy generated on or after January 1, 2004 may be counted for compliance with this Renewable Energy Standard. Renewable Energy or RECs generated on or before December 31, 2003 shall not be eligible for, and shall not be counted for, compliance with this Renewable Energy Standard. The eligibility for compliance of all Eligible Renewable Energy shall expire at the end of the fifth calendar year following the calendar year during which it was generated.

And 3659(d)

(d) A Renewable Energy Credit shall expire at the end of the fifth calendar year following the calendar year during which it was generated.

⁵ COMAR 7-709(c)(2).

CONCLUSION

The solar industry welcomes the opportunity to continue our positive dialog with the BPU Staff and Commissioners to ensure that the redesign of the New Jersey solar program is completed expeditiously. PV Now has recommended program design modifications that combine a reliance on market forces with a securitized SREC contract feature that will allow the solar program to grow and industry to prosper while delivering high value, clean and reliable electricity to New Jersey ratepayers at a fair price for the foreseeable future. We believe our recommendations will best enable the New Jersey solar program to build on the strong foundation created over the past four years and grow into the future.

APPENDIX ONE

PV NOW RESPONSE TO QUESTIONS POSED BY THE NEW JERSEY BOARD OF PUBLIC UTILITIES IN THEIR NOVEMBER 6, 2006 ORDER

At their November 9, 2006 meeting, the BPU Commissioners expressed a desire to transition to a new solar financing model that exclusively relies on SRECs instead of a combination of rebates and SRECs to enable customers to install solar projects. We believe that the analysis recently completed by Summit Blue as well as developments elsewhere around the world, should cause the Board to reevaluate this approach. Specifically, we believe that the value of a secure revenue stream (a program design objective PV Now has been promoting from the inception of this transition discussion), has been demonstrated to provide lower cost solar to the ratepayers of New Jersey over the course of the RPS program. While the discussion of these securitization approaches may be outside the scope of the Questions being addressed in this ACP discussion, it has a large impact on the SACP level that is appropriate. In these comments, we will address the unsecured SREC market as it exists today but we hope the Board will consider approaches such as the one presented in the recent filing by PSE&G, as well as others, so that the overall policy goals of establishing a competitive solar marketplace can be balanced with the opportunity to reduce overall costs to ratepayers through adoption of SREC revenue securitization mechanisms. Until those mechanisms are approved by the Board, we believe that it is essential for the continued, steady growth of the market that the SACP be increased as soon as possible.

The Summit Blue report also verified that the cost of providing solar electricity to different market segments is not the same. The New Jersey solar program has always had a policy goal of allowing access to the program by all market segments (residential, small commercial, non-profits and public entities). If the Board chooses to continue to support this policy objective, the solar program must be designed differently than if the goal of the program is to achieve the RPS goals at the lowest possible cost. PV Now recommends that any program that relies on performance based mechanisms, be they long term SREC contracting mechanisms, an SREC underwriter or even a tariff like approach, make allowances for different costs of solar generation from different market segments. Accordingly, if the Board decides to utilize the current SREC trading structure, there should be a corresponding commitment to extending the Clean Energy funding within the SBC and providing reduced rebates for smaller systems installed in the future.

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

In order to anticipate the shortfall, it is necessary to make assumptions about a number of factors including the pace of rebate approvals, the amount and level of rebates that might be available if the SBC funding for CORE is renewed for another four years, the success of the pilot SREC only program and the increase or extension of federal tax credits. The following estimation of the likely shortfall is based on an assumption that the historic approval rate of rebated projects will continue or slightly increase, that there will be a limited number of projects that go forward under the pilot

even if the SACP were to remain at \$300⁶ and that the federal tax credit will be approved for residential systems, thereby freeing up more money for rebated projects.

Using our best estimates of the above unknowns, we estimate that the following shortfalls will occur if the SACP remains at \$300 per MWh. The low end of the range for 2010 shows the estimated shortfall if the SBC is renewed for 2009-2012 with lower rebate levels for small systems and no rebates for larger systems. The high end of the range for 2010 represents the estimate if the CORE program is not funded past 2008.

Energy Year	Rebate MWh shortfall	SREC only pilot ⁷	Net shortfall
2008	8,042	2,083	6 MW
2009	40,692	11,000	29.7 MW
2010	57,445-81,741	11,000	46.5-70.7 MW

QUESTION 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?

SACP levels should be based on the cost of solar generation. The Board should establish levels for SACP that are consistent with the intent of the RPS rules to set SACP values that recognize the costs of providing renewable generation. The BPU order of December 18, 2003 that initially established the \$300 SACP level specifically stated that the SACP level approved in 2003 “is based on the estimated revenue stream needed to ensure financing for solar renewable energy projects.”

The SACP level depends especially on the amount of risk perception and securitization in the market. Since there is currently no securitization mechanism approved, the SACP recommendations contained herein will not assume long term revenue certainty. If and when such a securitization method for the entire market is adopted, the SACP values can be reduced. The recommendations contained in the body of the comments show recommended values that vary by generation term life. In determining the SACP value, we recommend setting an SACP based on consideration of the following data and analysis:

- Economic equivalence (on a 10% NPV basis) to current rebate levels being eliminated,
- The analysis in the Summit Blue report
- The PSE&G Proposal
- Financial models based on assumptions presented in the body of the comments

⁶ Although there appears to be at least 5.6 Mw of initial applications to the pilot, it is unclear whether those projects were submitted with the hope that the SCAP would be increased. The final capacity installed under the pilot is unknown at this time, particularly since final program rules regarding entity caps, maximum project size, etc. have not been determined.

⁷ Assumes first SRECs are produced from 1 MW of capacity installed under pilot in January 2008. Installations continue at a rate of 2 MW per month until a limit of 11 MW is reached. As discussed above, it is unlikely that all projects approved under the pilot will proceed to installation if the SACP remains at \$300.

QUESTION 3. For what number of years should the SACP be established? Should it be established only for the Reporting Years of the next BGS auction timeframe of RY 2008-2010, longer, or shorter? What timeframe is reasonable?

The Board Should Adopt a Ten Year SACP Schedule

PV Now agrees with the consensus of the ACP Committee that a multi-year SACP schedule should be published, and proposes making it ten years since this benefits all stakeholders (project developers, BGS action participants, rate payers) through reduced risk and avoidance of the associated risk premiums. This is one inexpensive way to create some degree of regulatory predictability and market certainty, which is a key goal for the program. By sending a signal that there is a desire of the current Board to establish a long term ACP to complement the RPS regulation, the financial community can get some comfort that the financial underpinnings of the solar program will continue.

SACP levels would be set by the BPU for ten years with an ongoing process that would review the SACP schedule each year and establish the SACP levels for Year Ten. For example, assuming the Board establishes a ten year schedule in December 2007 for EY 2008-2017, in December 2008 the Board would review the SACP levels for EY 2009-2017, and in addition, would establish the SACP for EY 2018. In this manner, pending unanticipated changes in the market (new or expiring tax credits, rapidly falling solar equipment prices, etc), both suppliers and customers would know likely SACP levels for the coming ten year period. This level of certainty would lower risk for both project financiers and LSE's, thereby reducing the overall costs of the solar program for ratepayers.

QUESTION 4. Should the ACP and 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?

We recommend that the Board establish a ten year SACP schedule that incorporates a **3% decline for each of the ten years** to reflect expected reductions in solar electricity price over time. Although the Summit Blue Final Report uses the Federal Energy Information Agency projection of a 2.2% decline in PV costs through 2030, we believe that the Board should be more aggressive in signaling a policy goal of reduced solar pricing in the NJ market between now and 2020.

QUESTION 5. Can the SACP be structured to enable different SREC prices for solar electricity delivered by rebated and non-rebated solar facilities?

PV Now agrees with the qualitative solar program analysis completed by Summit Blue at the behest of the BPU Staff. In that report, Summit Blue recommends that there continue to be one class of solar RECs. That recommendation is based on the fact that market consistency and continuity are more important in the long term than any "windfall" that recipients of rebates may receive from higher SREC revenue in the future. This "windfall" results from early adopters assuming the risk of a new technology and new regulatory structure. These early adopters were responsible for starting the program. It is not a major problem to reward these early adopters, particularly because there are significant downsides to creating two classes of SRECs and redefining the basic trading commodity that has been created.

This is made all the more important if the PV Now recommendation to continue rebates for small systems is adopted. The basis of these rebates is to bring small systems to parity with larger systems. The small systems will still rely on SREC revenue in order to achieve economic viability. These rebates for smaller systems would not cover 50-60% of system costs as in the past, but perhaps 30-40%. The remainder of consumer economic value would come from SREC revenue. It is imperative that these smaller systems continue to have access to the general SREC market (with the higher SACP). The two classes of SRECs would need to be defined by level of rebate, not rebate vs. non-rebate. This will add additional complexity and consumer confusion to the RPS market.

Although one could argue that the original 80 MW of rebated projects do not need the higher SREC revenue, the complexity of establishing and monitoring two classes of solar RECs has the potential to scare off market participants who fear other RPS changes portended by the redefinition of SRECs. Feedback from the financial community that will be supporting the remainder of the 1500 MW solar portion of the RPS indicates confusion over the discussed fundamental redefinition of basic market trading commodities. The trade-off of slightly higher potential cost for 5% of the market versus the danger of undermining the entire RPS program leads us to recommend that one class of solar RECs be maintained.

QUESTION 6. Should the SACP and the subsequent SREC have a life for payment to the renewable energy generator? Should the SREC continue only until the system is "paid for"? How long should that timeframe be?

As stated earlier, the PV Now recommended levels for the SACP assume that the current definition of an SREC with unlimited generation life be continued. If the generation term were to be limited, the recommended SACP levels would be higher. We believe the SREC as defined and traded today with no term limit should continue. The following are the reasons why we have taken this position:

1. Current market practice is that SRECs are valued in pro formas and sales presentations as having a minimum 20 year economic life. Any change in this life will affect all those systems and financial arrangements that have been predicated on an unlimited generation life. Changing market fundamentals after the program has been in operation for a number of years will raise fears in the financial community that the regulatory risk associated with financing solar projects has been significantly increased. This has the effect of increasing future year discounting which will increase ratepayer impacts.
2. We believe that the best way to ensure continued solar production from current installations is to pay for output. Since solar systems have zero fuel costs, it is to the State's advantage to continue to have solar systems producing energy and amortizing the State's investments in the technology. Matching renewable resources to long term production payouts is the best way to guarantee value for consumers and ratepayers. Shortening the length of time that SRECs will have value will encourage systems being taken out of state after the generation term has expired or falling into disrepair.
3. Increasing the supply of SRECs will tend to reduce their price, and hence cost to ratepayers as the program matures. Allowing systems to produce SRECs will benefit ratepayers.
4. An unlimited generation term (at least 20 years) will allow the price of solar to be placed on an equal footing with conventional generation and distribution assets that are amortized over long periods of time.

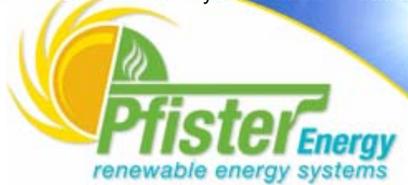
QUESTION 7. What are the advantages and disadvantages to the Board's posting a multi-year schedule for SACP levels?

See answer to Question 3

QUESTION 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?

PV Now believes that in general, Summit Blue did a credible job of laying out the ratepayer impacts of various alternative approaches to transitioning from a rebate centric approach to one based on longer term, performance based approaches. Although there was insufficient detail provided regarding the modeling done to be more specific, the report pointed out the importance of long term revenue security as a tool for reducing the overall costs of the solar program to ratepayers. The report also indicated that there are numerous policy goals that the Board has established for the solar program and some of the goals may not be fully congruent with lowest ratepayer impacts. The report pointed out that the danger of providing long term security is setting the support level at an improper level can either stifle industry growth (if set too low) or conversely prevent market and competitive forces from developing innovation and lowest cost solutions.

If a secure, long term contract (e.g. 15 years) mechanism can be established in a way that encourages innovation and competitiveness, PV Now will be very supportive. If legal challenges to a mandatory fifteen year EDC SREC contract can be overcome, this mechanism could be appropriate. The Summit Blue report confirmed, even with the bands of uncertainty around their predicted costs, that a securitized long term financing mechanism is required to drive the lowest possible costs for ratepayers.



80 East Fifth St.
Paterson, NJ 07524
973.569.9330
Fax: 973.569.9333
Toll Free: 800.367.2207

June 22, 2007

New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102

Re: Comments Regarding the SACP level for 2008

Dear Commissioners,

These comments supplement our testimony in front of Commissioner Fiordeliso, the Deputy Attorney General, Lance Miller, and Mike Winka on June 7, 2007. They are intended to be simple, concise, and to the point.

Our firm recommendations to the Board are as follows:

1. Maintain the rebates for small (<10kW) and medium-sized (10-40kW) systems and for non-profits and municipals up to 100W. Budget the rebates for the next five years, which is sufficient time to observe changes in the cost structure of PV systems, yet do not allow any additional project rebates greater than 40kW. Projects larger than 40kW could be rebated, but capped at the prevailing 40kW level. Allow any project in the queue to get rebated, but do not allow any additional applications for large systems. This change must be made immediately. To quantify this solution, please note that projects <40kW make up only \$8.2MM of the \$78.4MM in the GT10kW queue.
2. Replace the SREC trading system with a tariff system. SRECs are basically a financial derivative – an instrument that investors with a high risk appetite look for. It is not appropriate for most investors, much less parties who are trying to take action to minimize their impact on the environment. **Why must there be winners and losers in the solar production incentive program?** Rather than attempt to securitize the SREC as it stands, please reduce the overall cost to the rate base by removing the contingency that comes with risk.
3. Release budgeted funds early in the calendar year so as to maximize the benefits of the PV power generated throughout the year, particularly the summer of the installation year.
4. Do not retroactively make changes in the program. Act decisively to make changes when necessary, but when a valid application is submitted under a certain basis, allow that applicant the security of entering into the program based on the prevailing rules at the time of application.
5. Set the SACP at \$480 for the coming year in order to encourage an SREC trading price of approximately \$400. This incentive level would maintain vitality in the marketplace and compensate for the reduced or non-existent rebates (depending

Comments: New Jersey Solar Market Transition Straw Proposal

on market segment) for the upcoming years. When the tariff structure is approved to be implemented, there need not be any concern about its quantification, as it would be set at the then current SREC value of 40 cents per kWh.

These recommendations are streamlined, implementable, and are generally in line with the recommendations of NJSEIA and the vast number of system installers in the state.

We thank you for your consideration of these remarks and recommendations.

Sincerely,

Tom Ryan
PFISTER ENERGY

June 22, 2007

Kristi Izzo
Secretary
New Jersey Board of Public Utilities

Dear Ms. Izzo:

The New Jersey Sustainable Energy Industries Association thanks the Board of Public Utilities for the opportunity to submit comments on the matters herein:

- 1) The policy questions set forth in the January 19, 2007 Order Docket No. EO06100744 IMO RPS – Recommendations for ACP and SACP for Energy Year 2008: and ACP and SACP levels for Energy Year 2009 and 2010 or longer, and the Solar REC-only Pilot;
- 2) The stakeholder process regarding ACP and SACP levels for Energy Year 2009 and 2010 or longer, and the Solar REC-only Pilot;
- 3) The Summit Blue Report, “Analysis of Rate Payer Impacts of Alternatives for Transitioning the NJ Solar Market from Rebates to Market Based Incentives”;
- 4) Summit Blue’s presentation and discussion of this report;
- 5) The Staff Straw Proposal on recommendations for establishing an appropriate multi-year schedule that will develop a set of transition strategies while achieving the RPS targets and minimizing ratepayer impacts and any potential revisions to the current Solar REC-only Pilot; and
- 6) Any issue related to the stakeholder process for the above noted Board docket matter may be submitted to and viewed on the BPU and CEP website.

We have attempted to set out broad comments on major issues and hope that the public process will continue in the process of developing ongoing renewable energy policy in New Jersey. We thank the BPU for it’s leadership in developing policies for a clean energy future and look forward to the BPU’s continued vision in this regard.

Comments are attached.

Sincerely,

Bill Hoey

Via email and facsimile

COMMENTS ON THE NJBPU's RENEWABLE ENERGY PROGRAMS

June 22, 2007

The following comments are respectfully submitted to the New Jersey Board of Public Utilities (BPU) on behalf of the New Jersey Sustainable Energy Industries Association. NJSEIA is a coalition of renewable energy businesses, Environmental Organizations, non-for-profit groups, and other interested parties; with the goal of advancing renewable energy implementation in New Jersey in an equitable, cost-effective manner.

Summary:

- We believe that the ROI targets set by the Straw are unrealistic and will not result in meeting the RPS goals. We further recommend that Focus Groups be formed in order to quantify the payback required for all segments.
- We believe that a combination of continued rebate and the tariff models is a far superior program transition model than ALL other models. In fact, we believe that BPU straw program would be catastrophic to future development of the industry.
- We believe that Rebates are required for small and medium systems. The ratepayers who pay into the SBC should have access to funds that help offset some of the initial up-front costs.
- The SBC should be increased in order to support full funding of the RPS levels.
- The ACP/SACP should NOT be set until it can be coordinated with the transition program. Should the transition take longer than March of 2008, a higher level than \$300 should be considered for Energy Year 2009. We recommend an SACP level of \$450 for energy Year 2009.
- We believe that the Underwriter model should be abandoned in all haste. Not only is this model inherently flawed, but the chances that any entity could be found to become an underwriter without extensive securitization by the BPU are close to non-existent.
- The Summit Blue report has many flawed assumptions, but it clearly shows, and we agree, that there are dramatic cost savings by using a combination of rebates and a tariff program for ongoing support of all renewable energy systems.
- We are strongly against ANY limitation on the number of years a generator is allowed to generate RECs/SRECs and believe that this is a retroactive change and a discriminatory rule.
- We strongly believe that the tariff model meets the matrix of public policies goals extremely well and is the only model that does so. The tariff model empowers the BPU to combine multiple policy objectives simply and cost-effectively.

- While we highly applaud the leadership that PSEG has shown in its filing for a solar energy program. This program must be aligned with the overall Market Transition so that limits are not placed on the best model for the ratepayers.
- We urge the BPU to discuss the possibility of using the tariff with PSE&G instead of the currently proposed program. The overall Market needs to have a single Registration Process rather than separate and potentially disconnected systems.
- We urge the BPU to set reasonable project size limitations such that a few entities can not consume all of the money like California, Nevada, and Colorado. The limitations will create a robust industry with thousands of distributed systems that reduce constraint in the distribution network. Without these limits the Economic Development and Job Growth will not be achieved by the program.
- We urge the BPU to make sure that the programs created can be easily implemented and used by New Jersey ratepayers and that all ratepayers have equitable ability for participation. Again, we believe that the Tariff model satisfies both of those objectives and the Commodity and Underwriter model do not satisfy either objective.
- We believe that a comprehensive analysis of the true ratepayer impacts is still lacking. There have been no commissioned studies showing the ratepayer benefit to clean distributed generation systems within the grid network. The cost of these incentives does offset other ratepayer impacts and NO detailed analysis has been to date of the NET impact to ratepayers.

Further detailed comments:

Benefits of the tariff model:

- 1) Provides a stable, long term revenue stream to replace the rebate portion of the incentives based on the performance.
- 2) BPU has the appropriate authority to enact through existing procedure. No rule change or legislation would be necessary. It would, however, involve a rate proceeding.
- 3) Financial institutions would have confidence in the tariff revenue stream as it would be backed by a contract with an Electric Distribution Company. Unlike RECs that have a regulatory and market risk, once a renewable energy facility is accepted under the tariff, there would be a contract to back up the revenues. In this way, the renewable energy tariff would better leverage private sector financing for the construction of projects.

- 4) Cost of implementation would be extremely low. The tariff would be implemented through utility credits on electric bills. Only minimum implementation costs would be needed. Also, the tariff could be set with specific annual limits determined through calculation of the capacity shortfall for compliance with the RPS, a built in circuit breaker for both the cost of the tariff and to a large effect the commodity market as well.
 - a. E.g., if the RPS required 15 MW of installed capacity 2007 and 7 MW is already installed, then the tariff would remain open until 8 MW of capacity had applied under the tariff. A waiting list would then be created to go against the next future tariff structure. This policy would allow for an orderly transition of the market and prevent overpaying for renewable energy capacity. Measures to protect against speculation would need to be applied, such as application fees and proof of project advancement.
- 5) Varying rates of incentives can be offered in order to appropriately fund all ratepayer classes and types. For example additional incentives for residential and nonprofit sectors could be offered.
- 6) Makes gaming the system very difficult because the systems would have to verify the production of power in order to receive the incentive.
- 7) Since the funding would be recoverable through rates by the EDCs, and the LSE's would not be impacted at all, there is no reason for the EDCs or the LSEs to oppose this policy.
- 8) A separate meter will track the actual production of the systems and the incentive will be paid out based on actual performance. This aspect will encourage the installation of the best performing and most cost-effective solar energy systems. There is a long-term incentive to keep the systems performing at the highest level for both the tariff revenues and the SREC revenues.
- 9) A Tariff would have the flexibility to be reset in a given year in order to conform with changes in the Renewable Energy Markets. These changes would not effect legacy projects whose financial assumptions were based on previous Tariff Contracts.
- 10) The Tariff must consider impact to 'legacy' projects so that financial assumptions remain consistent with Investor Expectations. Any inconsistencies in these Tariff Contracts will cause Investors to move their funds to other Investment Vehicles.
- 11) Would work for all technologies, not just solar, whereas REC multipliers, long-term contracts for RECs etc. would not have the same potential impact.

Challenges:

- Creating the rate design, application criteria and ongoing implementation procedures for implementation.
- Making sure that the REC market is set to coordinate appropriately with the tariff.
- Justifying the cost of the new tariff, by monetizing the value provided by renewable energy systems and demonstrating long term ratepayer savings.
- Staffing the rate proceeding with BPU resources.
- Ensuring that the EDCs have surety for recovering revenues over the long-term.
- Determining whether or not the EDCs can be obligated to sign long-term contracts to back the contract revenues of the tariff.

Tariff Model Ratepayer Impact:

The Ratepayer impact needs to be modeled based on the assumptions used for tariff rate, term and also SREC values. Using a common sense evaluation, the impacts to the Ratepayer would be less than the Rebate Model as shown above and should be lower than a purely commodity based model with a high ACP.

One significant benefit to the model is that it is a highly cost-effective mechanism for implementing a performance based incentive in place of a rebate incentive. It allows for control of the amount of money that is paid out and to the growth of the market, so as to ensure the long-term sustainability of the growth.

- 1. Ability to achieve the RPS goals at the lowest possible price, and drive down the cost of PV: The Tariff Model offers an excellent mechanism to achieve the goals of the RPS at one of the lowest costs: The Tariff Model brings an assured minimum incentive level just like the underwriter model and creates a mechanism for adjustment to the incentive level both in response to market changes as well as to drive market prices. This hybrid approach of a combination of Tariff incentive and a continuance of the SREC commodity market allows for corrections in the incentive levels both through the market, as well as through BPU policy decisions. The ability to fine tune the incentive through both mechanisms is likely to result in the least incentive necessary to met the RPS goals. It is also the only model that proposes a system that could work for all renewables, above and beyond solar energy systems.**
- 2. Allow all players to compete fairly. Because the Tariff can be adjusted to easily accommodate residential and Public projects by offering an adjusted rate to these entities, it is one of the best models for allowing all ratepayers to participate fully in the program.**
- 3. Allow the development of tools for implementing related policy goals, including: Again, the Tariff Model can be adjusted to incentive the most desirable projects. For example a residential system in a smart growth area and congestion area could be offered a higher tariff than a commercial office in a non-smart growth non-congested area. None of the other models offer as simple a mechanism for layering policy objectives into the incentive program**
- 4. Low implementation costs: The Tariff Model should have one of the lowest implementation costs of all the models. The administration of the program should be quite easy and should be able to be managed within the traditional EDC billing systems. The total incentive to the solar energy systems should be no more than and could be potentially substantially less than other mechanisms.**
- 5. Ease of implementation: The Tariff Model will require a rate proceeding, but should have the same requirements for justification that any other performance based incentives would require.**
- 6. Short implementation period: The Tariff would require a rate proceeding, which has a maximum time period of time, but could be truncated depending on the BPU's available staff to review and make recommendations.**
- 7. Low regulatory risk: The Tariff Model as proposed involves a contract between the EDC and a solar facility owner. The solar owner then would have assurance that the Tariff would be in effective for the time of the contract. The Tariff going forward could be stopped at any time by decision of the BPU, however.**

Additional comments on proceedings:

The Summit Blue report is flawed in many of its assumptions. The evaluative matrix used does not look at the true cost of the programs models. The Summit Blue Report is fatally flawed in it's basic assumptions. In it's comparison it evaluates the Underwriter Model as less ratepayer impact than the tariff or hybrid tariff models. How could any logical analysis come up with such a result? Taking the analysis logically, the tariff is essentially a mechanism for providing a minimum securitization of projects, just like an underwriter. Thus, it is actually less costly than an underwriter model. The Underwriter model assumes that a large fund of up front money is collected to support the cost of the program, this cost of the program is not even put into the analysis. Additionally, the cost in the case where there is a call on the underwritten SREC values is not added into the potential cost. There are many scenarios in which there could be a catastrophic financial impact from the lack of market control in the underwriter model. If this happens, the Underwriter could potentially expose the underwriter or the State to unknowable financial obligations, bankrupting the underwriter or a costly mistake for the State. This type of program risk and financial cost should not even be considered by the State.

To evaluate the administrative cost of the underwriter model as lower than others is again without a proper analysis. If an underwriter can be found, the State would have to ensure that the underwriter was allowed to collect administrative costs as well as a fee for assuming this level of overall risk. This cost would be far greater than any of the other administrative models. **We recommend a major revision of the findings.**

The Summit Blue Report does not correctly depict how great the risks are for the underwriter and the commodity models. No models were show on what might happen in extreme market fluctuations. **We recommend a revision in these models to depict this.**

Even though the Summit Blue Report is flawed, it still shows that rebates and the tariff and hybrid tariff as among the most cost-effective to the ratepayer and to the development of projects. If the analysis used better logical assumptions, these two models would be shown to be the most cost-effective overall and at the same time the best to support the other program goals as well. **We recommend a revision to the report.**

The BPU's Straw Proposal needs to be revised to look at the stated goals and the proper implementation model to meet those goals. The Straw Proposal recommends a mechanism that will cause the highest impact to the ratepayers, discourage equitable participation of ratepayers, will not promote other Class I technologies AT ALL, and will be almost impossible to control as market conditions change. **We recommend scraping the entire document and starting from scratch.**

The ACP/SACP process should not predetermine the model for the transition, but should instead be coordinated with the transition model that is best for meeting the goals of the processes. Setting the ACP/SACP on a long-term basis without proper coordination with the transition program could have a substantially higher impact on the ratepayers than needs to be if the rate is set without this due coordination. **We recommend delaying the setting of the next ACP/SACP until it can be coordinated with the transition programs.**

The industry supports the tariff and hybrid tariff and believes that this program will be the best solution for our common goal of cost-effectively supporting the stable growth of the renewable energy infrastructure at the least cost to the ratepayers and the largest benefit to the ratepayers. **We recommend that these be the models develop in the revised BPU Straw.**

None of the analysis by Summit Blue shows the potential savings and value to the ratepayers, there is much evidence to support that an investment in distributed generation and non polluting energy sources will have a cascading financial and environmental benefit to the **ratepayers**. **The true question here is how much will it cost the ratepayers not to do this? We recommend that the BPU commission a full rate impact study showing savings from offset infrastructure.**

The BPU has stated that the goals of it's transition program should allow for the following objectives:

- Facilitate Rapid Growth of the Renewable Energy Infrastructure
- Program is readily adaptable to changing market conditions
- Compatible with regional markets
- Maximize investor confidence
- Facilitates self-sustaining market
- Ensure transparent auditable process
- Program design ensures simple efficient project logistics
- Low administrative burden
- Economically efficient
- Minimize regulatory risk
- Low program implementation costs
- Equity of participation:
 - Ability to encourage development by target categories
 - Congestion relief

We believe that the tariff model supports all of these goals much better than any other structure. In fact, many of the models put forward, including the BPU Straw Proposal, do not provide a mechanism for meeting a majority of the policy objectives. **We recommend that the Tariff Model be developed by BPU staff.**

Equity of participation: The ONLY program model that offers equitable participation to all renewable energy technologies is the tariff. None of the other models allow for a process for

other renewable energy technologies to be funded. What will the BPU do to continue to support the other Class I renewable energy technologies? The Hybrid tariff also provides the easiest and most equitable mechanism to support residential and public clients, the other program models are overwhelmingly biased toward commercial programs. **We recommend that the BPU analyze the need for incentives for other renewable technologies.**

While the Summit Blue Report analysis of “Project type” assumes a large amount of the new projects to be residential, the mechanism listed in the BPU Straw Proposal is the most difficult and inequitable incentive that could be chosen for a program that purports to want the residential market to flourish. A Commodity style market or underwriter will be the most challenging for supporting small and public sector projects equitably. **We recommend rebates for small projects be continued in addition to a Tariff for all projects. We also recommend that the SBC Funding be increased to support the build out of the RPS.**



June 22, 2007

Mr. Michael Winka
Director – Office of Clean Energy
NJ Board of Public Utilities
P.O. Box 350
44 South Clinton Avenue
Trenton, NJ 08625

Dear Mike:

Re: Solar Market Transition Straw Proposal

Attached to this letter are comments that I provided at the June 7 Public Hearing in Trenton on behalf of PSE&G. We have reviewed the comments of other participants in each hearing as well as the two Summit Blue Reports. At this time PSE&G has no additional comments to offer.

Very truly yours,

A handwritten signature in black ink, appearing to read "Fred Lynk", is written over a horizontal line.

Fred Lynk
Manager – Demand-Side Marketing

Fred Lynk Comments
NJ Renewable Energy Solar Market Transition Straw Proposal
Public Hearing, Trenton
June 7, 2007

Good Afternoon Commissioner Fiordaliso. My name is Frederick A. Lynk, Manager – Demand-Side Marketing for Public Service Electric and Gas Company and project manager for PSE&G’s solar initiative. I am also a member of the Clean Energy Council.

I’d like to thank you for the opportunity to provide comments on the Solar Market Transition Straw Proposal. PSE&G appreciates what a difficult balancing act the Board is faced with, and with the importance of getting the right structure in place to build on the success achieved thus far. PSE&G will be submitting more extensive written comments before the close of the comment period, but I did want to take the opportunity today to highlight a couple of key concerns that are immediately apparent to us. PSE&G has been a participant in the stakeholder process that led to the development of the Straw Proposal. Also, in connection with the Solar Initiative that we filed with the BPU in April, as you can imagine, we have done financial modeling of the solar market and have held extensive conversations with solar developers and potential equity investors in developing our proposal. My purpose today is not to promote our initiative, because there will be another day for that, but rather to point out areas in the straw proposal that we believe do not meet the Board’s desired Transition Objectives for this market.

The Stakeholder process developed a number of guiding principles for the Solar Market Transition. Summit Blue distilled them into four broad areas:

- Sustained Orderly Development
- Ratepayer Impact
- Transaction Costs
- Support for other policy goals.

I'd like to address the first area – Sustained Orderly Development today. Key elements of this include:

- [The Program should] Facilitate rapid growth (to meet RPS targets)
- [The] Program [should be] readily adaptable to changing market conditions
- [The Program should be] compatible with regional markets
- [It should] Maximize investor confidence, and
- [It should] facilitate a self-sustaining market

New Jersey can be proud of its leadership position in incubating a market for solar energy. Through public policy initiatives developed by the BPU, interest and demand for solar energy has been created in many market segments. This strong foundation is comprised of an aggressive Renewable Portfolio Standard with a solar target, some of the most extensive net metering requirements in the country, and the necessary upfront capital in the form of grants and rebates. The growth in the industry has been

phenomenal. But we are at a crossroads. Because of the need to develop 1800 MW (according to Summit Blue) of solar capacity by the year 2021, the Board's policies need to enable the orderly development of markets and also assure that sizable federal tax credits are fully captured. If this change is not done correctly, continued growth in the marketplace could be quickly choked off.

The generation of electricity through the use of photovoltaic cells is a technology that still is expensive when compared with other forms of generation, and is likely to remain so for some time. Because of this it is likely to need some continuing form of governmental support. PSE&G believes that the move to a full SREC model which puts all the risk on the project owners is premature.

Turning to the specific strawman proposal, PSE&G believes that the proposed SREC qualification life of from 8 to 10 years is too short to generate the necessary internal rates of return that project owners require in order to invest in these projects. Of course we recognize that SREC value and SREC qualification life are linked, so if the Board is interested in having a shorter life, SREC values will have to be significantly higher than the schedule of SACPs that are provided for in the proposal on page 6. In developing our own initiative we think that an SREC value of \$475 with an SREC qualification life of 15 years will work, but we doubt that the 8 to 10 years with the proposed SACP schedule will. In the development of its initiative, PSE&G assumed an IRR of 9% for owners,

which is in line with the 10% figure used by Summit Blue. PSE&G also believes that a 12 year payback is much too long.

We realize that there is a desire to not overly enrich early adopters in order to minimize ratepayer impacts, but if the Board sets the SACP price too low the market will stall in much the same way it has done with the current queue for CORE program rebates, and the state will fall off the required trajectory to meet the RPS targets. If this happens, resetting the values to correctly stimulate the market will take time and momentum will be lost.

PSE&G understands that because of the development cost structure, certain markets will require continuing support from upfront payments. The residential market is one such market and PSE&G supports continuing rebates at some level for residential projects. In our analysis of that market segment in the filing we made on April 19, we acknowledged that continued rebates are necessary for the residential market to continue to evolve.

To create stability in markets and to meet the objective of maximizing investor confidence, we believe that once SACP levels are set for a length of time, they should not be lowered. It is important that a price signal be kept in the market place for a sufficiently long period to enable deals to close and be brought on line. Of course, if the values ultimately chosen are insufficient to attract the necessary investment, they should be raised. PSE&G found this to be an important feature of its Standard Offer for energy

efficiency projects, a program that we ran in the 1990's. Known stable pricing enabled energy services companies and customers to work through the sales cycle, which is often a function of annual capital budgeting and planning.

PSE&G has another concern with the Straw proposal and it is again with the SREC qualification life. Once the SREC qualification life is reached, the facility will no longer be eligible to generate SRECs, but will be able to generate Class 1 RECs that can be traded in the Class 1 market or the voluntary market. We read this to mean that the system will no longer count toward the solar target, and that new projects will have to be developed to replace those that no longer generate SRECs in order to meet the RPS solar requirement. Given the aggressive year 2021 goal, we believe that as long as a system continues to produce energy, it should count toward the goal, regardless of whether it is creating tradable SRECs. We realize that that may pose tracking problems, but at a minimum the Board should scale the RPS requirement taking this phenomenon into account.

In summary, PSE&G believes that the nascent solar market needs some form of long-term government sanctioned backstop in the range of 15 to 20 years in order to continue to evolve. Solar still cannot compete with other forms of generation, and is not likely to any time soon without this. It is too early to put the risk entirely on developers as the SREC-only model does. We also recommend that the numbers be reworked, perhaps in with input from potential investors in the technology.

This concludes my remarks. As I've said, we'll have more to say in our written comments.

**STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES**

IN THE MATTER OF THE : **Docket No. EO0600744**
RENEWABLE PORTFOLIO STANDARD :

**INITIAL COMMENTS OF
CONSTELLATION ENERGY COMMODITIES GROUP, INC.
AND CONSTELLATION NEWENERGY, INC.
IN RESPONSE TO MAY 25, 2007 SOLAR STRAW PROPOSAL**

INTRODUCTION

On January 19, 2007 the New Jersey Board of Public Utilities (“Board”) issued an Order in the above docketed proceeding initiating a stakeholder process regarding Alternative Compliance Payment and Solar Alternative Compliance Payment (“SACP”) levels for energy years (“EYs”) 2009 and 2010 or longer (“January 19 Order”). On May 25, 2007, Board Staff issued a New Jersey Solar Renewable Energy Market Transition Straw Proposal (“Straw Proposal”) for parties’ comments. On June 6-7, 2007, hearings (“June Hearings”) were held in this matter in Newark and Trenton, respectively, in order to provide parties with an opportunity to discuss the findings in the January 19 Order as well as the Straw Proposal. Pursuant to the January 19 Order, the directives of the Straw Proposal and the Proposed Solar Stakeholder Schedule, Constellation Energy Commodities Group, Inc. and Constellation NewEnergy, Inc. (“Constellation”) appreciate the opportunity to submit these brief comments regarding the Straw Proposal.

CONSTELLATION COMMENTS ON STRAW PROPOSAL

Constellation takes issue in these comments mainly with three particular aspects of the Straw Proposal: (1) any form of entity cap that limits the number of systems any one market

participant may install and/or own;¹ (2) the proposed Qualification Life time periods which would limit the number of years for which any installed solar generation system (“System”) would be granted Solar Renewable Energy Certificates (“SRECs”) for the energy it generates;² and (3) the proposed SACP schedule which defines SACP levels only eight years out, through EY 2016.³

Constellation first urges the Board not to include in any final solar market plan (“Solar Plan”) a cap on the number of Systems or megawatts of solar generation that any one market participant can install, own or operate in the State (“Entity Cap”), as currently included in the Straw Proposal. In this respect, Constellation supports the comments that entities such as PV Now voiced at the June Hearings, denouncing the Entity Cap. Constellation notes that, especially due to market participants’ current reluctance to enter the New Jersey solar market at this time because of regulatory uncertainty, as explained by several participants’ comments at the June Hearings, the Board should be careful not to discourage capable, successful solar developers from investing in the State. If an entity is able to build Systems more effectively and efficiently than other market participants, it should be encouraged to do so to the greatest extent possible. In a competitive marketplace, those entities that have the best ability to plan and construct new Systems may in fact have the lowest costs, which allow their operations to be profitable and sustainable in the marketplace. Moreover, because of their strong abilities to develop Systems, these entities may be those that have better credit profiles than other competitors in the market – a key aspect of being able to obtain and invest the capital necessary to construct new Systems. New Jersey’s consumers will only benefit from allowing the most capable and successful investors to develop new Systems, to the greatest extent possible, rather

¹ See Straw Proposal at p.4.

² See Straw Proposal at pp.3-5.

than subjecting the best developers to an Entity Cap that limits their ability to advance New Jersey's solar market. Absent a compelling reason which outweighs these benefits, the Board should eliminate any Entity Cap from its final Solar Plan.

Constellation also asks the Board to heed the recommendations of several participants at the June Hearings, including MMA Renewable Ventures ("MMA"), PV Now, SunEdison, to tie the Qualification Life term period, if any, more closely to the actual life cycle of a System. The Straw Proposal calls for different Qualification Life term periods – *i.e.*, the periods of time for which Systems actually receive SRECs for the energy which they generate – for different types of Systems, ranging from four to ten years for a System which receives a rebate from the State, and from eight to ten years for a System which does not receive such a rebate. Market participants, on the other hand, rightfully argued at the June Hearings that the Qualification Life of a System should be tied more closely to the actual life cycle of the System. MMA, for instance, called for the Board to adopt a Solar Plan which includes a Qualification Life of *at least* 15 years, as Systems typically are a 20-year asset. PV Now, recognizing a similar asset life for Systems, encouraged the Board to adopt a Qualification Life of *at least* 20 years. Constellation agrees with these parties and notes that it is only prudent that a System which produces clean, renewable solar power should receive the benefit of SRECs for a time period closer to that in which it is actually producing such clean energy.

In addition, Constellation asks the Board to consider strongly whether to have differing Qualification Life term periods depending on whether a System received a rebate; Constellation supports PV Now's position that all Systems should have the same Qualification Life, regardless of whether they are receiving a rebate during their initial years of operation. Eliminating the SREC incentives for Systems which received rebates to initially enter the marketplace would

³ See Straw Proposal at p.6.

serve to punish first movers. Entities may have relied on both rebates as well as a continuing SREC allowances over the course of their Systems' life cycles, prior to entering into long term contracts which provided such entities with financing for their solar projects. Changing the rules after such developers' reliance on such incentives and precluding them from obtaining these incentives may render these entities unable to fulfill their existing contract terms. Moreover, such a move to alter the rules and treat differently those Systems which are receiving rebates will only serve to highlight the market's perception of uncertainty in the New Jersey regulatory environment, and may further dissuade solar market participants from investing in the State.

Finally, Constellation commends the Straw Proposal for attempting to propose a *rolling* SACP schedule in which, each year, during the Board's annual review of the ACP/SACP, the Board will drop the prior EY from the SACP schedule and add an additional EY to the end, while maintaining all of the rest of the schedule's existing EYs. Setting, maintaining and refreshing a long term SACP schedule sends the appropriate regulatory signals to the market place that New Jersey is committed to its Solar Plan. However, Constellation echoes other participants' calls for the SACP schedule to extend further out into the future. For example, whereas the Straw Proposal includes a SACP schedule for only an eight-year term, SunEdison at the June Hearings asked the Board to consider a rolling SACP schedule of at least 10 years, citing that Maryland recently set its SACP for a 15-year forward time period. Constellation agrees that the Board should strive to include a rolling SACP schedule of at least 10 years, if possible. Given the activities in other Mid-Atlantic states such as Maryland, and especially because of the expiration of other New Jersey solar rebate programs, New Jersey should provide to potential developers and other market participants the additional signal of regulatory and investment certainty provided by a longer term SACP schedule. In a competitive marketplace,

where investors and market participants can allocate their limited resources to one or more of the many states trying to promote the use of solar technologies, New Jersey should do as much as possible to catch and maintain such parties' interest in the State's market, first and foremost.

CONCLUSION

Constellation asks that the Board: (1) refrain from including in its final Solar Plan any form of Entity Cap; (2) extend the proposed Qualification Life time periods to more closely match Systems' life cycles, regardless of whether they are receiving State solar rebates; and (3) extend the SACP schedule to at least ten years out while maintaining its rolling structure. Constellation appreciates this opportunity to submit its comments in response to the Solar Plan presented in the Straw Proposal and looks forward to continued participation in New Jersey's development of its solar market.

Respectfully Submitted,

/s/

Divesh Gupta, Esq.
Constellation Energy Group, Inc.
111 Market Place, Suite 500
Baltimore, Maryland 21202
(410) 468-3468
divesh.gupta@constellation.com

*On Behalf of
Constellation Energy Commodities Group, Inc. and
Constellation NewEnergy, Inc.*

Dated: June 22, 2007

NJBPU – Office of Clean Energy
POB 414
Trenton, NJ 08625-0414
Attn: Michael Winka – Director

June 22, 2007

Re: NJ Solar Renewable Energy Market Transition Straw Proposal of May 25th, 2007

The May 25 straw requests comments on the models analyzed in the Blue Summit reports, how they would advance or inhibit the goals set forth by the Board and expressed in the current staff straw proposal. The staff straw also requests comments on specific proposals for a Rebate/SREC program for EY2009 on forward.

Our comments here are motivated by how the Board might proceed in EY2009 and forward to meet the solar RPS with minimal ratepayer impact and by 2020 create a viable solar market in NJ, sustainable without incentives.

Of the models analyzed by the Blue Summit Team, we recommend the Board adopt the 15-year feed-in Tariff, and establish this model in a pilot program in EY2009, with the OCE temporarily acting in the role of an EDC, pending further analysis. The Board is likely aware multiple states and Canadian provinces are considering a Feed-in Tariff, including California, to achieve their RPS obligation. Funding for this Pilot would come from the money proposed by the staff straw to go to LT 10kW rebates. This pilot could run concurrent with the SREC-only pilot, and provide the opportunity for leaning by doing to establish correct levels while the RPS requirements are still reasonable low compared to that in later years.

The Feed-in Tariff has a track record for creating both solar market and industry in Germany, and is now underway across Europe and in Ontario. It is easily understood by customers, provides the highest degree of investor confidence, is efficient, flexible, performance-based, and can accommodate changes in State and Federal policy. As shown by Blue Summit, it has the lowest ratepayer impact, and can enable secondary policy objectives to be met. Like other models, under- or over-growth can be modulated to bring the installed production in line with the solar RPS.

Of the many attributes of the Blue Summit Models, we believe a Feed-in Traffic most importantly lowers the cost of investment which directly impacts the cost of solar electricity, and offers the best opportunity for growing a sustainable market and industry. The closest alternative model proposed is the hybrid tariff, which is not attractive because of the uncertainty and hence higher risk premium placed on the SREC revenue stream. Arguments that when the SREC market matures this risk will decrease are unconvincing, and we see little need to build a large SREC market infrastructure when the goal of the RPS is to make solar electricity economic, without a need for an SREC market.

Whatever model program analyzed by Blue Summit that the Board considers progressing, we respectfully recommend the following:

1. The Board should quantify its goal and timeframe to create a sustainable (we interpret this as economic) solar market in NJ. We suggest that levelized cost of electricity (LCOE) is an appropriate metric, determined by, for example, the Solar Analysis Model available at the NREL website. The Board may also be informed by the goals of the Solar America Initiative, a DOE-sponsored partnership program across major players in the solar industry and the National Laboratories to drive the cost of solar electricity to grid parity by 2015-20.
2. The Board should authorize the OCE to make publicly available for each completed solar project, information relevant to installation costs and projected production, and update this with actual production data in kWh per time period, including actual production from LT 10 kW systems where it exists. From this data both projected and actual LCOE can be determined. Trends can then be discerned across time, system size, and siting that would increase market efficiency as well as inform the Board as to progress towards the goal of a sustainable solar market.
3. The Board should authorize the OCE to establish addition rules regarding the threshold requirement for a solar project funded through the CEP. Currently a project must achieve a projected kWh production greater than a specific percentage of the default PVWatts output. We recommend a broader definition of a threshold requirement informed by the market for achieving increasingly lower LCOE. This threshold requirement, set for example, one year in advance of its implementation, is used as an additional circuit breaker when market growth is expected to exceed the solar RPS. The spirit here is that breakthroughs in solar technology will take several or more years to penetrate the market, while incremental reductions in LCOE specific to the local solar and land resources of New Jersey are a surer and wiser bet to lowering costs. If encouraged the market will find efficiencies for those property sites and solar electric systems that move towards more favorable economics.

Regarding the Staff proposals for a Rebate/SREC program for EY2009 and forward:

Eliminate the rebate for LT 10 kW private for 2009 and forward.

Allow this market segment to participate in a pilot discussed above and based on the 15-year Tariff model. Fund this pilot with money otherwise proposed for rebates in this segment. If a Tariff pilot is not offered, then regarding rebates we note while this market segment does have higher first cost in \$/Wdc installed, we believe based on data for completed projects in EY2004 (from the njcleanenergy.com website) that projected production per installed dollar, kWh/\$, was the same for LT 10 kW as for GT 10 kW. If this is currently true the higher install cost for LT 10 KW would be made up by downstream SREC revenue, arguing against the need for rebate.

Both new construction and community solar projects should be aggressively pursued to identify cost reductions unique to each, and should not be limited to LT 10 kW.

In particular a solar community project provides an opportunity for equitable distribution of ratepayer funds, and addresses the fact that solar electricity may never be economic for some, perhaps the majority, of ratepayers at their site of use. The Board should solicit more input on how such programs would operate.

For GT 10 kW systems, we support no rebate as proposed, and recommend offering these systems a choice of SREC-only pilot or Tariff-only pilot.

This provides a smooth transition between private, non-commercial LT and GT 10 kW systems, and allows larger projects the option to proceed under a power-purchasing agreement or leasing arrangement that may have favorable economic benefits to the customer.

The SACP should be set at \$750/MWh in EY2009 and kept constant over an eight-year qualification life.

The staff straw proposes a payback time of 12 years which is twice that expected by the commercial market segment. We recommend, if SRECs are to continue in the future, higher SACP levels of \$750, as others have recommended, to achieve a 6-year payback.

Respectfully submitted,

John Macklin, Ph.D.

Clean Energy Advocates
c/o Center for Innovation and Entrepreneurship
Suite 202, Memorial Hall
Rowan University
201 Mullica Hill Rd
Glassboro, NJ 08028
john@cleanenergyadvocates.com

June 22, 2007

Mr. Michael Winka, Director
Office of Clean Energy
NJ Board of Public Utilities
44 S Clinton Ave
P.O. Box 350
Trenton, NJ 08625-0350

Dear Michael:

I am writing on behalf of the 515 members of the New Jersey Chapter of NAIOP (National Association of Industrial and Office Properties) regarding the Solar Transition Straw Proposal that you shared with us following our joint meeting with BPU, the Office of Economic Growth and the New Jersey Economic Development Authority (NJEDA) on June 13, 2007. We look forward to working with the Board and the Corzine Administration to achieve its energy conservation and greenhouse gas emission reduction goals through the use of solar technology and green building techniques.

In its Public Policy Agenda 2006-2007, NJ-NAIOP recognizes that while some federal funding is available to help jump-start commercial Green building initiatives, state incentives are necessary to help offset the first costs of energy-efficient equipment. To meet this challenge, we recommend that government work closely with the commercial real estate community to develop creative incentives with as much flexibility as possible including expedited permitting, increased densities, tax credits, and subsidies for buildings that voluntarily pursue performance-based standards or LEED certification focusing on energy-efficient building practices. The use of performance-based standards that are market-driven, as opposed to government mandates, is essential. NJ-NAIOP also recognizes that raising awareness and training professionals in green building practices is essential in facilitating the transformation of the commercial market.

Toward this end, NJ-NAIOP has reviewed the Straw Proposal dated May 25, 2007 and prepared by the Office of Clean Energy, and more specifically Section 2: Market Support for > 10 kW Private Systems. The most significant comment we can offer is that any incentive program that is geared to a twelve-year payback is essentially a non-starter in an investment-grade real estate market.

The payback period, which our investors are used to, is closer to three to five years. One measure which could be implemented from a public policy perspective includes lengthening the period of a Solar Renewable Energy Credit (SREC) contract to at least 10 and preferably 12 years. Currently, SRECs can only be traded in the energy year in which they are created. In this way, the SREC would be viewed as an income stream that could be capped (capitalized) and not evaluated from a simple amortization/payback. In other words, our suggested change would give developers a greater incentive to utilize solar technology

because it will increase the value of these buildings, as future buyers of these buildings (buildings can be viewed as income streams) will be more willing to pay top dollar for these investments (i.e., buildings) since they will view the future income stream as being more reliable.

If the SRECs are considered a trade-able financial instrument, capped (capitalized) at say 10% as opposed to simple payback, Photovoltaics (PVs) will make more sense and be far more attractive to the commercial real estate development and investment community.

Other measures would include increasing the pool funding amount that the NJEDA could use to purchase Investment Tax Credits (ITC), perhaps just for solar/photovoltaic systems, that is presently limited to \$60 million per year. These increased funds would help jump-start the use of solar technologies in the non-residential market and compensate for a declining rebate program. The state should also seriously consider increasing the amount of funding that can be allocated to purchasing depreciation/tax losses and perhaps NJEDA stepping in to guarantee some of these SREC contracts, to provide some certainty to a relatively immature market.

NJ-NAIOP also recommends that BPU consider offering free commercial energy audits and establish an educational program for commercial and industrial real estate property owners, investors and brokers on the benefits of green building techniques to the environment and their bottom lines: energy conservation, best management practices and enhanced operating efficiencies of buildings. This could be housed in a central data bank. Another suggestion is for the state to approve a list of commercial roof coatings that reflect and reduce heat. In other words, the BPU could identify a list of commercial roof coatings that qualify as renewable energy capital improvements that will reduce the heat island effect.

Consideration should also be given to eliminating the 2 Mega Watt cap that is currently in effect on the amount of renewable energy that can be sold back into the grid. This measure would encourage the development of solar energy and allow the proliferation and decentralization of clean energy generation. Other legislative initiatives that should be considered include: amending the Municipal Land use Law to allow green building construction to be a condition for variance; providing bonus densities for green building design; establishing an alternate green building code with incentives (e.g., Chicago code: www.illinoisashrae.org/HealthySchool/ASHRAE%20Green%20Permit%20Programpdf); establishing a green building center of technology; and creating green affordable housing tax credits.

NJ-NAIOP also supports the concept of Community-based Solar Systems whereby residential and non-residential consumers (i.e., mixed-use projects, malls, transit villages) buy into a centrally located project as opposed to individual installations.

Success with reaching these goals will only be realized with a joint effort and close cooperation and coordination by all agencies of government at both the state and local

levels. DEP, DCA and DOT in particular must work together with the BPU, OEG and NJEDA to stay focused on the endpoint, which is to be more energy efficient.

In conclusion, if we can employ every tool in the incentive tool kit and get close to a three to five year payback, New Jersey should be able to catalyze a market. That, coupled with quicker permits and lower fees, could spell success and a win-win for all.

NJ-NAIOP again looks forward to further discussing these concepts in greater detail and providing you with access to the necessary experts and resources who understand the commercial and industrial real estate industry. Should you have any questions, please give me a call at 732-729-9900. I can also be reached on my cell phone at 609-203-3557.

Sincerely,

A handwritten signature in black ink that reads "Michael McGuinness". The signature is written in a cursive, flowing style.

Michael McGuinness
Executive Director

Cc: Angie McGuire, OEG
Caren Franzini, NJEDA
Allen Magrini, Hartz Mountain Industries
Mark Yeager, Gale Real Estate Services Co.
Jeff Milanaik, Heller Industrial Parks
Rich Johnson, Matrix Development Group and ULI (Urban Land Institute)
Jeff Schotz, GVA Williams
Tony Pizzutillo, Smith Pizzutillo, LLC

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 Tariff 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 likely 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.

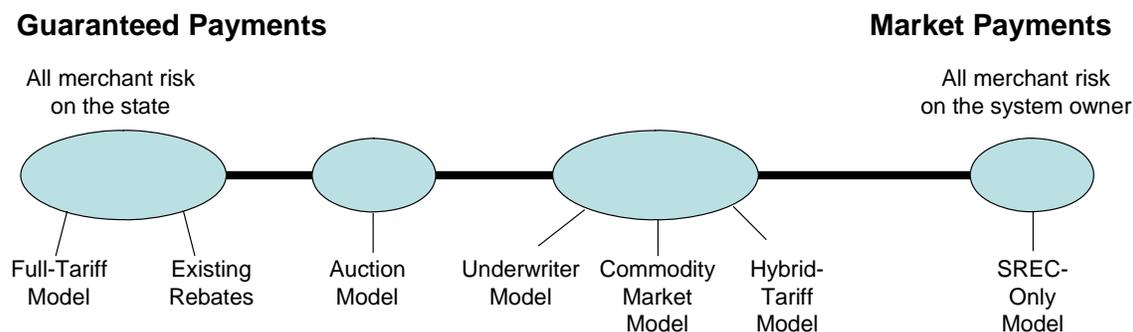


Figure 1: Risk Allocation Among Market Participants

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.

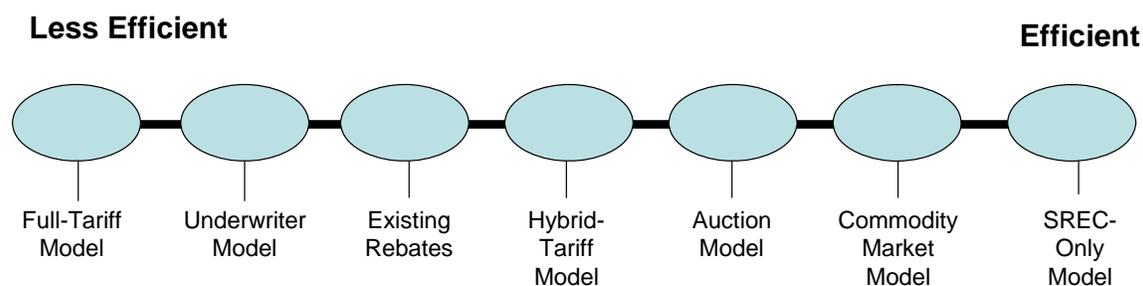


Figure 2: Efficiency Rating Among Market Models

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

¹Summit 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 Model³

	<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

²These 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.

³Based 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

⁴Based 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.

⁵Even 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 Gains⁶

	<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.

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

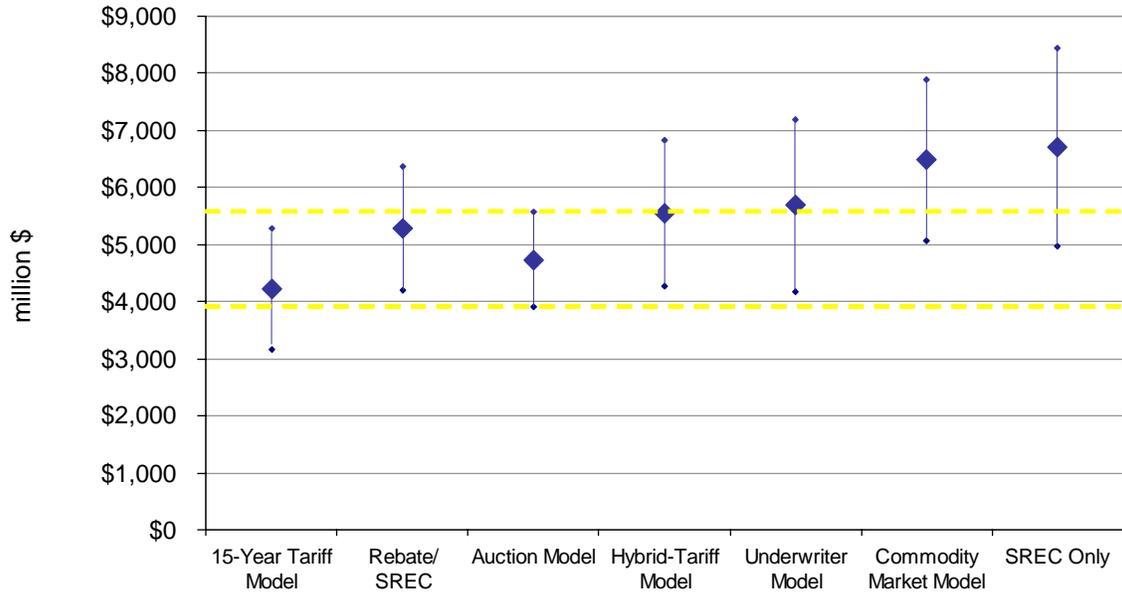


Figure 3: Weighted Average RPI Comparisons with Deviations⁷

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.

⁷Based upon estimates included in original Summit Blue Report.

Auction Model	Full Tariff Model
Strengths	
<ul style="list-style-type: none"> • Shorter-term project economics; transparent pricing improves investor confidence • Low ratepayer impacts • Low transaction costs for SREC buyers/sellers • Can target MCP adjustment to provide higher SREC revenue for target project types 	<ul style="list-style-type: none"> • Guaranteed revenue improves investor confidence • Reduced risk premium lowers ratepayer impacts • Low transaction costs • Tariff rates could be adjusted for different groups to support policy goals
Weaknesses	
<ul style="list-style-type: none"> • Rate shock due to 5-year project economics 	<ul style="list-style-type: none"> • Lack of full revenue certainty could limit access to third party financing. • EDC could leverage billing function to provide efficient administration of tariff, but may not be willing. • Does not create environment for promotion of efficiency

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 SACP levels 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 SACP is fundamentally changed under the OCE proposal.

If SACP is 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, SACP and SREC 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 be 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 a 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.

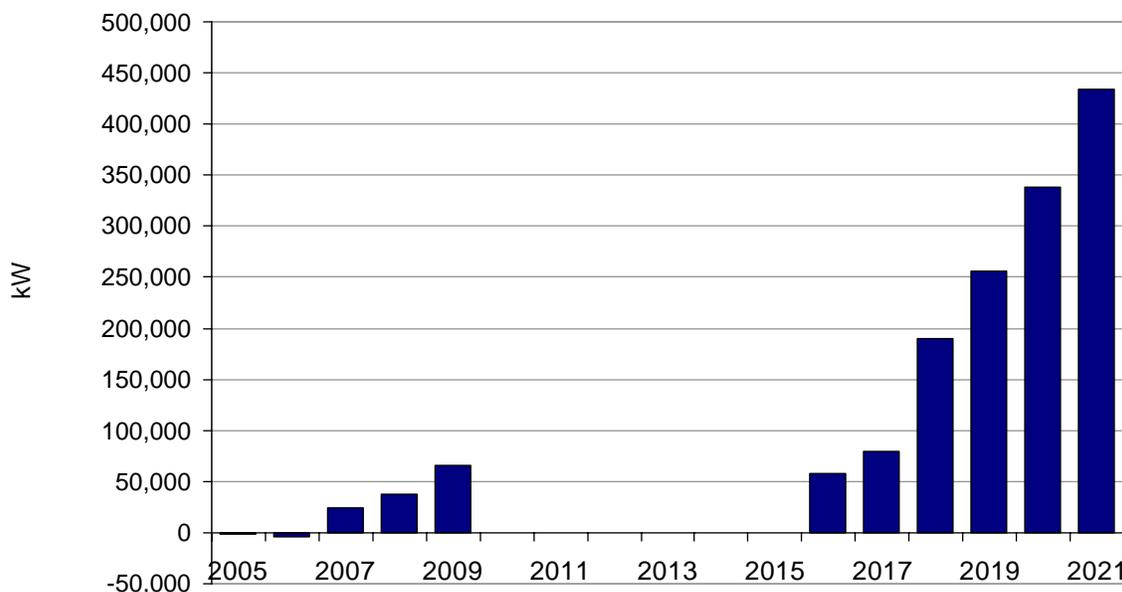


Figure 5: Additional kW Needed

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.



21 June 2007

Kristina Izzo
Secretary, Office of Clean Energy
New Jersey Board of Public Utilities

Re: Renewable Portfolio Standard, Docket EO0600744, Office of Clean Energy Staff Straw Proposal

Dear Ms Izzo:

I am writing to encourage the Board of Public Utilities to adopt the section of the Straw Proposal promoting community-based solar systems. The majority of New Jersey residents have neither the proper roof orientation nor the funding available to construct solar power generators at home. Community solar arrays, which would be local, central, and available to all regardless of roof orientation, would aid New Jersey in reaching its goal of 20% renewable energy sources by 2020.

Community solar is a new approach to alternative power generation that many townships would be eager to try. Lawrence Township (Mercer County) is already working towards installing a community solar array but cannot move forward because the BPU has no rules in place to allow it. Please adopt the Community Solar portion of the Straw Proposal so that municipalities all over New Jersey can work towards meeting renewable energy goals.

Community solar projects can work in tandem with single home-based solar power generation, but small-scale solar projects must continue to receive incentives. The phase-out of rebates in favor of SRECs would be a disincentive to those who cannot finance a solar installation without an immediate refund. Please retain rebates for individual homeowners and small solar installers.

Thank you.

Sincerely,
Laura Lynch
Conservation Chair
NJ Chapter
Sierra Club

njsierraclub@gmail.com

From: Csira, Regina
Sent: Friday, June 22, 2007 3:35 PM
To: McShea, Anne; Hunter, Benjamin; Boylan, Rachel; Loos, Brian
Cc: Winka, Michael
Subject: Comments on the Straw Prop

Importance: High

Follow Up Flag: Follow up

Flag Status: Flagged

I also (OCE@bpu.state.nj.us) received the below email from 340 different people:

Office of Clean Energy

Dear Office of Clean Energy,

The State of NJ recently announced its goal of creating 20% of its power demand through renewable resources by 2020. Solar power generation, which is both clean and renewable, can contribute a significant amount to this goal if it can be generated at a large scale.

I am writing to encourage the Board of Public Utilities to adopt the section of the Straw Proposal promoting community-based solar systems. For those of us who want to use solar power but are unable, we have, for the first time, a chance to create local, central, solar panel arrays that we can buy into at the community level. This is a new approach to alternative power generation that many townships are eager to try. But such a venture first requires a rule change at the BPU. Please adopt the Community-Based Solar System component of the Straw Proposal.

Community solar projects can work in tandem with single home-based solar power generation, but small-scale solar projects must continue to receive incentives. Please do not eliminate rebates to small-scale solar installations in favor of SRECs.

Thank you.

Sincerely,
Matthew Pintar
618 Louise Court
Canonsburg, PA 15317