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Submitted to the New Jersey Board of Public Utilities In
Response to the Commission's Invitation to Comment on
New Jersey's Solar Transition

Geoscape Solar is a solar integrator based in Livingston. We address primarily the residential and commercial markets and our only business is solar. Geoscape Solar both sells and leases behind-the-meter solar projects. We understand solar financing and SREC price volatility from the perspective as installer, as well as project owner.

In addressing next steps for the solar transition in New Jersey, there are many issues that remain elusive and not solvable by the proposals currently under consideration. These issues include:

- Creating stability in expected future solar cash flows for solar investors
- Minimize the cost of solar incentives to the ratepayer
- Ensure that solar incentives paid by the ratepayers are market-based
- Lack of transparency in the flow-through from SACP to SREC price to passed-on cost to the ratepayer
- Lack of liquid lending market for financing solar projects
- Large burden looking to be placed on the EDCs to spur the market
- Unclear transition from EDC-based financing to private financing

One aspect of the current incentive structure that makes ongoing market-based dynamics elusive is that the demand side of the market – the RPS – is artificial and NOT elastic. Holders of SRECs cannot entice LSEs to buy more SRECs than mandated by the RPS, no matter what the price. As we have seen from the current over-supply situation, there is no self-correction mechanism in the current program - short of halting new solar installations until the RPS catches up to the existing installed base and pipeline. Instead, the BPU and the legislature need to step in to avoid a collapse in SREC prices and New Jersey's solar installation industry. Instead of the market dictating where SRECs should be priced to induce investment, the legislature is wrestling with what it believes is the right trade-off between accelerating the RPS and lowering future SACP prices. What we know about markets is that it is exceedingly difficult, perhaps impossible, to lock in prices TODAY that will fit changing market conditions in the future. When the SACP schedule was set originally, it seemed like the right level of prices to create an attractive, but not excessive return to solar investors. As installation costs fell and the SACP was fixed, investment returns soared. The market responded with a glut of project supply that is now crashing the market and sending a clear signal that the SACP was set higher than needed for current RPS goals. The first problem with this is even with this crash in SREC prices there is no transparency into if, and by how much, the ratepayers are benefiting from the lower SREC prices. The second problem is, as mentioned above, to keep the industry from collapsing there will be a new acceleration of the RPS and an arbitrary reset of SACP prices. But there is no way to know whether any new RPS and SACP schedule will strike the right balance to deliver the amount of solar the state wants developed at the lowest possible cost to the ratepayer. The third problem with the current SREC structure is that in order to take advantage of the 3-year trading life designed to protect SREC values, solar investors might have to go several months (and

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possibly years) without any cash flow from the SRECs that they were counting on to repay them for their investment. As solar investors make a decision to go forward with solar in an over-supplied market, they are speculating that the state will raise the RPS to accommodate their additional supply – and that will ultimately lead to SREC pricing remaining close to the SACP. To control the overall cost of solar incentives, the state remains in the position of constantly updating RPS targets and the SACP to balance speculative solar investment and ratepayer cost. Following this trail essentially excludes a market-based solution and leaves the legislature and/or the BPU to figure out what the right market balance is.

At Geoscape Solar, we believe that a viable solution can be built around the concepts that underlie the utility finance programs. The PSE&G program has the significant benefit of providing up-front financing for solar projects, but the floor price is again arbitrary and not market-based. The EDC auction program is market-based - tying the long-term SREC incentive to the cost of installation at the time a solar customer is making the decision to go forward.

The key shortcomings of the utility finance programs that need to be addressed are the following:

- The PSE&G loan program has no market mechanism to adjust the fixed SREC price paid to program borrowers. The floor price is not sensitive to the rise or fall of installation costs.
- As the annual RPS requirements grow into the hundreds of megawatts, the capital needed to install solar projects will greatly out-strip the EDCs capacity to finance them.
- The auction process is cumbersome, auctions are not held monthly and the EDC auctions have historically been under-utilized by the residential solar segment.
- The PSE&G loan and SREC contract documents all have clauses that transfer the risk to the solar customer if state laws change to eliminate or negatively modify the SREC program. This makes financing long-term contracts problematic at best.
- The EDC financing programs are not available to customers outside the four participating EDC service territories.

We believe the next solar transition should aim to achieve the following goals:

- Create room in the RPS for new solar capacity to avoid a collapse in the installation industry.
- Transparency in the cost to New Jersey ratepayers for the solar incentives, including the SREC prices and cumulative administrative costs that are passed on.
- A market-based mechanism that will deliver the desired level (and only the desired level) of solar capacity at the lowest cost to the ratepayer.
- Simple and transparent application process to attract as many solar developers as possible
- Avoiding the need for future legislation to address market imbalances.
- Minimize the administrative cost and burden of the program.
- Attract private lending sources to the New Jersey solar market to help regular customers, not just PPA and lease providers, to capture the benefits of solar ownership.
- A mechanism to protect the investment return for the pioneers who have made New Jersey the number one state in the country for solar.



Geoscape Solar proposes the following changes to the auction-based SREC approach:

- Accelerate the RPS schedule by two years, achieving the 5,316 GWh goal in 2024, instead of 2026. The lower cost achieved through up-front SREC reverse-auction procedures instead of SACP-driven prices will offset the cost of RPS acceleration. By not increasing the last two years, any additional incentive cost becomes more of a timing of cost recognition than one of absolute cost. In addition to RPS acceleration, consideration should be given to withdrawal of PSE&G's Solar for All projects from the SREC market, reducing the amount of over-supply that has to be addressed. PSE&G could be separately compensated for its existing solar investments.
- All solar projects will apply for OCE approval with a 15-year SREC price schedule (proposed SREC prices in no event to exceed a ceiling SREC price established by the BPU). Like the EDC auction program, each project can be evaluated using the Net Present Value (NPV) of its proposed pricing schedule.
- Project applications would be approved monthly and require an application fee tied to the size of the proposed system. Applications could be for that month only (fill-or-kill) or left active until withdrawn or eventually accepted (good until cancelled). The annual RPS would be divided into monthly goals. OCE would approve the lowest NPV projects until the monthly goal is met. If project applications fall short of the monthly requirement, all projects for that month would be approved. Rejected "fill-or-kill" projects and withdrawn projects would be refunded their application fee and can re-submit a new application at a later date without penalty and with a new application fee. Rejected "good until cancelled" projects would fill shortfalls in the supply of projects in future months. This is only one of many approaches to the monthly selection process. In a more subjective approach, the OCE could approve or deny project applications based on project NPV and OCE forecasts for the existing pipeline and future project applications.
- In the final month of the energy year, if approved/installed megawatts fall short of the annual RPS, all rejected "good until cancelled" applications for the year could be automatically accepted in order of lowest NPV to highest NPV until RPS is met or all projects have been approved. If total installations fall short of the annual RPS, there could be an automatic increase in the SREC ceiling to induce more projects for the coming year(s).
- Approved projects will have a finite timeframe to complete construction, as they do now. In order to reduce the number of applicants who are not truly prepared to build a system, the application fee could be refundable only if the application is withdrawn within a certain amount of time after OCE approval and upon completion and final OCE approval of the system. This would allow solar customers to lock in their SREC prices and have time to find financing for their projects, but would penalize them for clogging up the pipeline and never completing the project.
- Binding contracts will be issued for all approved projects to purchase all SRECs registered on GATS at the agreed SREC price. The OCE (through the market manager) or the EDCs can be the SREC purchaser in these contracts and will pay solar owners for their production with funds collected from the Societal Benefits Charge. The contract will NOT allow the purchaser to void the contract based on changes in law or policy.
- The LSEs will be totally removed from SREC administration and purchase requirements and will have no need to pass SREC or SACP costs onto ratepayers.

- Optional consideration should be given to creating separate segments for residential, small commercial, large commercial and grid-supply projects. Capacity not used for one market segment can be carried forward and/or released to other market segments.

Benefits of this approach include:

- Solar incentive cost to the ratepayer is completely transparent and minimized.
- If there is insufficient solar supply to meet annual RPS goals, neither the LSEs nor the ratepayer is penalized by having to pay an SACP. To induce more solar investment for future energy years, the SREC ceiling price can be raised to the level needed to attract the additional investment.
- Since only projects approved with a definitive SREC price schedule get built, speculative project construction (that will later pressure lawmakers in an over-supplied market to help bail them out of the investment) will be eliminated.
- The ratepayer will NOT be required to pay for more solar than is approved in the RPS in order to keep the industry healthy and stable.
- Elimination of the spot market for SRECs that can never truly be market-driven with the demand-side of the market fixed by legislation. This will avoid SREC market crashes, as well as the threat of a boom and bust cycle in the solar installation industry.
- LSEs are relieved of SREC administrative burdens.
- Issue of LSE transparency with respect to assumed SREC prices goes away.
- EDCs will not need to be called upon to finance the state's solar goals.
- Establishes a direct correlation between cost to ratepayers and incentives required to induce solar investment – every project submitted for approval is competitive.
- Each project will receive the cash flows needed to justify the investment based on the cost of installing at the time the project is installed. Changes in future installation costs, federal incentives and financial markets will be reflected when those projects submit their applications.
- As installation costs come down over time, the NPV needed to make projects viable will come down and be reflected in future bids. To the extent installation costs rise again or spike for any reason, this market mechanism will allow for stable and continuous development of solar projects.
- Consolidation of solar incentive administration – instead of having all EDCs and LSEs staff, train and administer different aspects of solar incentive compliance, under this proposal, the OCE (with or without the EDCs) can streamline the solar incentive process
- Because each project – once approved – will have cash flow secured by a long-term contract, they will not be subject to future regulatory or market price risk, yielding two key benefits in the lending markets:
 1. With stable, predictable cash flow, banks will finally be ready to make loans against future SREC cash flows.
 2. The cost of debt capital to finance solar projects will decline, further reducing the SREC prices needed to justify solar investment and lowering the cost to the ratepayer.
- If project applications consistently outpace the RPS goals and the overall cost of the incentives are low, the legislature has an analytically easy choice to increase the RPS to absorb additional solar supply.



With adoption of this approach and the proposed elimination of the SREC spot market, an adjustment will need to be made for solar projects already installed and for those approved and not yet built. There are many possible ways to handle this, but here is a place to begin:

- New contracts should be written for projects that are already built. The question to answer is at what price should these new contracts be written?
 - The simplest to administer and probably the most universally fair would be to issue contracts to all built projects at the PSE&G floor price in effect at the time the project was approved. This could possibly mean that projects approved under the CORE rebate program (which were built without the expectation of the current SREC program) would get nothing for their SRECs.
 - Projects approved and partially completed (evidence should be required) could be treated the same as completed projects described above.
- Projects approved, but for which construction has not yet begun, should have to re-submit applications under the new rules.

Because this proposal is built upon many of the basic principles already driving the SRP process, we hope that the debate of its merits will be simpler than some of the alternatives. One of the main obstacles to this approach certainly is the shift of administrative burden away from the state's EDCs and LSEs to the OCE / market manager. But again, this consolidation could well lead to lower overall administrative costs and certainly will lead to greater transparency of the cost of solar incentives to the ratepayer.

Thank you very much for your consideration.

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