

# New Jersey



## ***New Jersey's Solar Market: Transition to Market-based REC Financing System*** *Outline of the General Process to Transition to an Open Market Certificate Financing System*

*December 13, 2006*

Currently, the Board of Public Utilities through New Jersey's Clean Energy Program provides substantial rebates for installation of solar generation systems. However, based on its legislative mandate under EDECA and the policy goals of the Board, the OCE is working towards a goal of a self-sustaining solar generation industry in New Jersey. In addition, as the Renewable Energy Portfolio Standards requirements increase if the rebate is the primary mechanism for delivering increased solar (and other renewables) the total rebate cost and the cost to ratepayers will increase significant. Therefore a more efficient mechanisms needs to be developed to aid in achieving the RPS goals. To do this, the Board's direction to OCE is to design and implement policies that will gradually reduce rebates and other subsidies, and will encourage private financing of solar generation.

One key incentive for installing solar generation is to minimize the payback period to a level where the offering achieves sufficient activity. Therefore, the Board is working in an integrated manner with its other incentive programs to reduce the payback period for installing solar generation to approximately than ten years. Higher energy costs contribute to lowering the overall payback for installing solar generation. However, with the current cost of solar electricity, an additional mechanism is needed to reduce payback periods. At present, with reducing rebates to the primary mechanism through which the Board could reduce payback periods is through policies that will increase the value of Renewable Energy Certificates (RECs). This document is a general outline of the steps the Board would need to consider to reach the goal of a ten year payback period with no NJCEP rebate or subsidies.

**As with any decision tree or process flow, the Board could decide on the no action step at anytime in this process, or could use a combination of some or all of the steps.**

The model for a certificate based solar financing system can also apply to all other Class I renewables, residential whole building energy efficiency and commercial/industrial whole building energy efficiency. With a whole building EE approach the Board would need to establish an Energy Efficiency Portfolio Standard.

In order to transition from the current rebate-driven financing to a certificate-based financing system the Board will need to consider the following separate but interrelated actions:

1. Establish the next energy year or multiple energy year Alternate Compliance Payments (ACP) and the Solar ACPs (SACPs) at levels calibrated to increase the value of Solar RECs without flooding the market with excessive solar generation;

2. Establish a Solar Open Inspections Pilot Program. This pilot would allow any applicant who wants to finance installation of solar generation without an NJCEP rebate to obtain an inspection and certification that the energy they generate will be eligible for Solar RECs. The Board would **register** projects for solar RECs within this pilot. In exchange for this registration, the applicant would submit to the Board general information (which could be on a confidential basis) regarding the financing used for the installation. This pilot phase would be open for a limited period of time;
3. Evaluate the information gained through the Solar Open Inspections Pilot Program to determine the challenges and opportunities that face those who want to install solar generation without OCE rebates; and
4. Based on the evaluation in 3 above, potentially adjust both the SACP level potentially for multiple years as discussed below. The pilot could be expanded at that point if determined it is needed (Phase 2 Solar Open Inspections Pilot Program). This pilot would include addition request for information and additional registration criteria for the issuance of Inspections/Certifications of REC eligibility. This Phase of the pilot would also have a limited timeframe. The overall design would be to assist in achieving a gradual transition from rebates to a self-supporting system of financing solar generation.

Currently, the financing for installation of solar generation has four components, which together result in a typical payback period of approximately 10 years. This financing system is similar for all Class I renewables, residential energy efficiency (EE) and commercial/industrial EE to varying degrees.

The current financing for installation of solar generation typically includes:

1. An upfront capital cost rebate: OCE pays this when the system is installed and inspected. The amount of the rebate is based on the capacity (in kilowatts (kW)) of the system installed;
2. The avoided cost of electricity: the electrons (e-) generated by the solar system replace those the customer would have bought off of the grid. In addition, for solar generators, there is also a gain through sale back to the EDC of excess energy, accomplished through the NJBPU's net metering program;
3. RECs: The renewable attribute of the electricity generated is captured in Renewable Energy Certificates (RECs) (a+). For solar energy this is provided through the Solar REC (SREC). The SRECs are issued to the generator based on the amount of energy in kilowatt-hours (kwh) that the solar generation system produces; and
4. Federal incentives: The federal government provides "production" incentives, accelerated depreciation, and other federal tax credits and incentives.

The combination of these four factors determines the payback period and the return on investment (ROI) produced by the generation system. If the Board sets a ten year payback period as a goal, the Board can then adjust the ACP and SACP levels, and the available rebates, to meet that goal.

The current financing model provides incentives for the construction and installation of solar generation systems. However, this model has a cost to the ratepayers in rebates, the cost of administering the net metering program, and the cost of issuing SRECs (as well as the indirect costs of federal tax incentives). On the other hand, this model allows for the construction and installation of solar systems that have quantifiable benefits to the ratepayer as well – avoided environmental costs, increased distribution system reliability and lower system costs.

In the near future (less than ten years) solar electricity will be significantly less expensive and solar generation facilities will be installed without incentives. However, given its current cost, the installation of solar still requires incentives. To encourage the installation of solar generation without OCE rebates requires an increase in one or more of the other three types of financing mechanisms listed above – i.e., the avoided cost of electricity, the value of RECs, and/or federal subsidies.

The Board cannot control the cost of electricity supplied through the grid, and therefore cannot rely on an increase in the avoided cost of electricity to encourage the installation of more solar generation. Similarly, the Board cannot control the amount of federal subsidies that will be made available, and in fact the Board's goal of fully market-based financing of solar generation would not be furthered by an increase in federal subsidies. Therefore, the obvious incentive for the Board to address is the value of RECs. The REC financing system is also the most efficient way of delivering an incentive at a lower annual cost to the ratepayer. Furthermore, under EDECA, the legislature provided the Board with the ability to affect the value of RECs by setting the level of the ACP and the SACP. (See figure 3)

The timeframe to implement this transition depends on the decisions made in regard to the three separate but inter-related actions.

1. ACP/SACP

If, based on the comments received from the Notice for a single or multiple energy year ACPs/SACPs, the Board decides to set a multiple energy year ACP/SACP at a higher rate the Board must decide this rate, through a hearing process and establish that rate in an Order. This process may take 4 to 6 months

If the Board decides, after review of the comments received from the Notice, to not set a multiple year ACP/SACP, the Board will set the ACP/SACP for the next energy year only.

If the next energy year ACP/SACP is the same or lower than the current year the Board could establish that in an Order by the next agenda meeting.

If this next energy ACP/SACP is higher than the current energy year ACP/SACP the Board must decide this rate through a hearing process and establish that new rate in an Order. This process may take 4 to 6 months.

## 2. Pilot

If the Board sets the next energy year ACP/SACP at the current rate, the Board could immediately establish a pilot based on this rate. This pilot would have only limited use in testing some of the underlying financial principles but it could be implemented within a relatively short time frame. The reason is that with the current federal tax credits “some” commercial/industrial may have a significant return on investment (greater than 10%) to proceed with the current ACP/SACP to generate a positive cash flow. The criteria for this pilot could be developed by the next Board agenda meeting after or concurrently with the decision on the ACP/SACP.

If the Board decides on a multiple year ACP/SACP, as noted above, the Board would establish the criteria for the pilot based on that decision. The timeframe for the implementation of this pilot would be after the hearings and Order establishing the multiple year ACP/SACP. This pilot would allow for a wider array of customers to test a broader array of the underlying financial principles of the REC based financing model.

The above pilots are not either or decisions. The Board could decide to do both at the same time within the timeframes noted above.

## 3. The Transition

The transition to a market-based REC financing model will require rule changes. Rule changes are made through a broad and public stakeholder process to evaluate and review positions. Within this stakeholder process the Board would establish its proposed rules and provides for a public comment/public hearing process to accept comments. Based on the comments received the Board would make a decision to adopt the proposed rule with or without changes/revisions. Significant revisions would require a re-proposal and re-hearing of the proposal prior to adoption. The timeframe for these rule changes could take from 6 to 12 months or longer. The time frame depends, in part, on the decisions made by the Board as described above.

If the Board decides on a single year ACP/SACP, at the current ACP/SACP rate and establishes a pilot based on that decision, the regulatory changes will be minimal. However, the timeframe to make these rule changes may be up to 6 months in order to meet the administrative requirements as set forth in the Administrative Procedures Act.

If the Board decides on a multiple year ACP/SACP and establishes those multiple year ACP/SACP rates based on hearings, and establishes a pilot based on that decision, the regulatory changes will be more complex and require additional time to develop through a stakeholder process, proposal and adoption and this could take up to 12 months or longer.

As discussed above this process is not an either or decision. The Board could decide to do both and could decide to do both at the same time within the timeframes noted above.

The above describes, in general, the major issues of the three separate but inter-related actions and the timeframes the Board should consider in order to proceed to transition from the current rebate centric financing model to a certificate financing model that is performance based.