



NanoPV Solar

March 20, 2020
Princeton, New Jersey

To

STATE OF NEW JERSEY
Board of Public Utilities
44 South Clinton Avenue, 9 th Floor
Post Office Box 350
Trenton, New Jersey 08625-0350

Subject:

Successor Program March 20 Comments

Docket Nos. QO19010068 and QO20020184 – In the Matter of a Solar Successor Incentive Program Pursuant to P.L. 2018, C.17

Dear Sir/Madam,

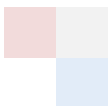
We would like to submit our comments for the Solar Successor Incentive Program as follows. We also presented these points during the solar successor program stakeholder meeting held on March 3rd, 2020.

NanoPV is a NJ solar manufacturing and technology company that provides process and solar module manufacturing solutions since 2005.

Topic 1: Successor Program Incentive Design

B) Incentive Type / Incentive Delivery Mechanism

In addition to the presented three generation incentive types, we would like to propose the incentive for New Jersey manufactured solar panels. This incentive will reduce eventually the total system cost of the solar projects for the developers while substantially benefitting the economy of the state and the manufacturing job creation. This incentive also fits very well with the provisions of the clean energy act 2018 of New Jersey. This incentive will





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give rise to the solar panel manufacturing industry of New Jersey, which is currently *not existing*. This also will provide credibility, performance assurance and enforceable U.S product warranty. Further, the reliance on foreign solar modules during the challenging and uncertain periods, such as the one the country is currently going through, can be avoided.

The manufacturing incentive could be similar to the one that already existed previously in NJ. Currently discontinued, this type of programs that encourage domestic solar manufacturing are followed very successfully in other states such as Minnesota, Washington and others.

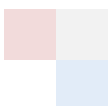
Other Advantages:

The capacity of the solar installation in NJ last year is 423MW. The total installed capacity in NJ so far from the year 2000 is 3,166MW. The complete list of solar panels used in NJ projects is given at: www.njcleanenergy.com/renewable-energy/project-activity-reports/solar-activity-report-archive

Strikingly, it can be seen that there is no solar module manufactured in NJ was used for these large capacities of installations. It is indeed unsettling since New Jersey is the state where the solar panels were invented and the current solar industry, estimated at \$130 billion, exists due to those inventions at Bell labs and RCA labs in New Jersey.

The average annual solar installation in New Jersey since 2010 is 304MW. The total installation of solar modules in the country in 2019 is 13GW. It is estimated that less than 10% of these installations were using American manufactured solar modules. New Jersey deserves to be benefitting from such a huge market demand. It is also an opportunity for the state due to the available commercially proven, cost effective solar manufacturing technology and know-how. It is essential that the existing solar incentives are connected with the solar manufacturing. Such planning is not only going to reduce the actual cost of the solar systems but also it would improve the economy of the state as well as the number of manufacturing jobs. *It is estimated that the existing demand can give rise to around 1.2 million direct solar manufacturing jobs.* This can be achieved effectively by connecting the existing clean energy act and renewable portfolio standards of the state with the local manufacturing.

In addition, the local NJ manufacturing facilities can also be supplying solar panels to the international solar markets whose annual capacities are more than *115GW*.





The incentive values:

The incentives can be obtained by two methods.

1. By the capacity of the NJ manufactured solar modules used for the projects. We propose the value of \$0.05/W.
2. By the units of electricity generated: The developer or the end user can receive an additional credit for using NJ manufactured panels. We propose the value of \$0.02/kWh.

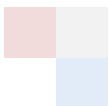
Currently, for the solar modules purchased from the overseas manufacturers, the developers or the end users need to pay an additional tariff of 25% to 175% depending on the origin of the solar modules. This is an opportunity that did not exist during the previous phase of the NJ-made solar manufacturing credits.

If required, NanoPV can assist the state with manufacturing expertise obtained for more than two decades, to give rise to the solar manufacturing in New Jersey.

Topic 4: Solar Siting

For solar siting, the permitting for agricultural lands are “not preferred” or “not allowed”. We think the permitting considerations are very general and it does not take into consideration the salient features of certain photovoltaic technologies. There are special types of solar panel technologies and installations that can be very beneficial for the agricultural farmlands and buildings. Thereby, the zoning need to be modified based on the technology to be used.

The solar modules currently considered for the siting are viewed as if all the solar modules are using the same technology and installation. However, the solar modules can be installed in the form of green house solar structures and Agro-solar installations. The solar installation can utilize special type of solar modules that will allow the visible light to go through them while reflecting the harmful near infra-red and UV radiations away from the agricultural plants. These solar modules customized for such applications can have various transmission levels, different colors, sizes and customizable shapes. Those installations are not only environmentally friendly but they also help the plants to grow very effectively.





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The other type of the solar installation is Building Integrated Solar Photovoltaics (BIPV) where the solar panels can also function as the part of building element such as walls, windows and shingles etc. These panes can well integrate on existing structures without creating any code violation and environmental concerns. These types of the solar installation also need to be considered “preferred” even in agricultural and in otherwise non- preferred locations.

These types of solar installation will lead to the effective usage of otherwise non usable solar surfaces. However, they might have higher costs due to the cost of manufacturing of such panels and customized installation structures. Thereby, additional incentives can be considered for the agricultural and BIPV type of installations.

Sincerely,

Anna Selvan John



President and CEO
NanoPV Solar Inc.

