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June 17, 2022

**In the Matter of Competitive Solar Incentive Program
Pursuant to P.I. C. 169
BPU Docket No QO21101186**

Via Electronic Mail

Acting Secretary of the Board
Board of Public Utilities
44 South Clinton Ave, 1st Floor
PO Box 350
Trenton, NJ 08625-3050
board.secretary@bpu.nj.gov

Dear Acting Secretary Diaz:

In response with the Board's notice in the above mentioned docket, REV Renewables respectfully submits the following attached comments on the implementation of Section 6 of the Solar Act of 2021.

Sincerely,

A handwritten signature in black ink that reads "Steph Will".

Stephanie R. Williams

Attachment

**Docket No. Q021101186, IN THE MATTER OF COMPETITIVE SOLAR INCENTIVE (CSI) PROGRAM
PURSUANT TO P.L. 2021 C. 169**

REV Renewables (“REV”) was launched by leading energy infrastructure developer, investor, and operator LS Power to accelerate the clean energy transition by serving as its utility-scale renewable generation and energy storage platform. REV is a company structured, staffed and financed to execute on the mission to power a clean 21st century energy system that will drive de-carbonization of the United States economy. We possess significant recent experience successfully developing, constructing, owning and operating renewable and storage facilities in markets across the country.

REV has a diverse portfolio of operating solar, storage, and wind projects across the United States, totaling over 2,600 MW. REV’s sizable portfolio is comprised of several assets in New Jersey including the Yards Creek Generation Station (420 MW) and Mars Solar (2 MW), both located in Warren County. In addition, REV is actively developing solar and storage projects across the state and maintains a physical presence from its Princeton office.

REV aims to work collaboratively with the state in support of its clean energy goals, and will continue to invest in clean energy solutions for New Jersey. As developers of solar energy, we appreciate the opportunity to provide comments to the New Jersey Board of Public Utilities (BPU) regarding the design of the Competitive Solar Incentive (CSI) program. The design of the new program must take steps to reduce the cost to ratepayers and create new incentives to encourage solar development in New Jersey.

REV’s recommendations, summarized below, aim to:

- (1) improve the effectiveness of the CSI program,
- (2) increase the likelihood the state will meet its target for clean energy generation and,
3. capture the spirit of A4554 (2021) in establishing an SREC successor program.

REV generally supports the Joint Comments of the Solar Energy Industries Association, New Jersey Solar Energy Coalition, MAREC Action and the American Clean Power Association submitted May 25, 2022.

The CSI program, as proposed, names 5 tranches for competitive solicitation: (1) Basic Grid Supply, (2) Grid Supply on Built Environment, (3) Grid Supply on Contaminated Land and Landfills, (4) Net metered non-residential projects above 5 MW, and (5) Storage paired with grid supply. The tranche design is intended to incentivize a range of project types with different cost profiles. However, we believe that some tranches are defined too narrowly or that additional tranches are necessary to avoid the risk of dis-incentivizing some project types that otherwise support meeting New Jersey’s clean energy goals.

Comments for consideration:

Recommendation #1: REV recommends expansion of the Grid Supply on Contaminated Land and Landfills Tranche (Tranche 3) to floating solar arrays sited directly on bodies of water that are used for industrial or other non-public purposes.

The proposed definition for Tranche 3, Grid Supply on Contaminated Land and Landfills, recognizes the states desire to use marginal lands and preserve forestry, agricultural land, and open spaces. However, nothing in the statute defines marginal land to be limited to contaminated lands and landfills. We believe this definition as written for Tranche 3 is too narrow, and needs to be expanded to include floating solar.

Solar arrays that float on water can utilize space that would otherwise lie idle that have limited public use. Storm water retention ponds in industrial plants, irrigation reservoirs, canals, mines, quarries and storage ponds of pumped hydro facilities in many cases do not have alternative public use. These types of installations utilize marginal land or water bodies in remote areas and provide a highly efficient use of space in an otherwise land-constrained state.

A recent NREL study, Floating Photovoltaic System Costs Benchmark,¹ found floating solar systems more expensive because of the use of pontoons, secondary floats, anchoring and moorings' that hold the system in place. In addition, electrical boxes and cables for the aquatic environment, marine grade submersible cables, and central inverters on-shore increase the costs of floating solar versus ground-mounted PV systems (Figure 1). Overall, NREL estimates that floating solar costs about \$0.26/WDC (25%) more than a comparable ground-mounted PV system due to the need for specialized equipment (Figure 2).

Floating solar also provides additional environmental benefits. Solar arrays on water reduce evaporation and algae growth, which can enhance water conservation and quality. Evaporation rates in over-canal solar arrays in California found solar in this environment could reduce annual evaporation by an average of 39+/- 12 thousand m³ per km of canal.² Additionally, case studies of over-canal solar photovoltaic arrays have demonstrated enhanced photovoltaic performance due to a cooler microclimate next to the canal.

For these reasons, we believe that floating solar represents a valuable opportunity for New Jersey that should be incentivized as part of Tranche 3. Floating solar provides for efficient utilization of otherwise marginalized space, delivers additional environmental benefits, and needs to be appropriately incentivized to account for what is likely to be a higher cost profile.

¹ NREL, Vignesh Ramasamy and Robert Margolis, Floating Photovoltaic System Cost Benchmark: Q1 2021 Installations on Artificial Water Bodies

² McQuin, B., Zumkehr, A., Ta, J. *et al.* Energy and water co-benefits from covering canals with solar panels. *Nat Sustain* **4**, 609–617 (2021). <https://doi.org/10.1038/s41893-021-00693-8>

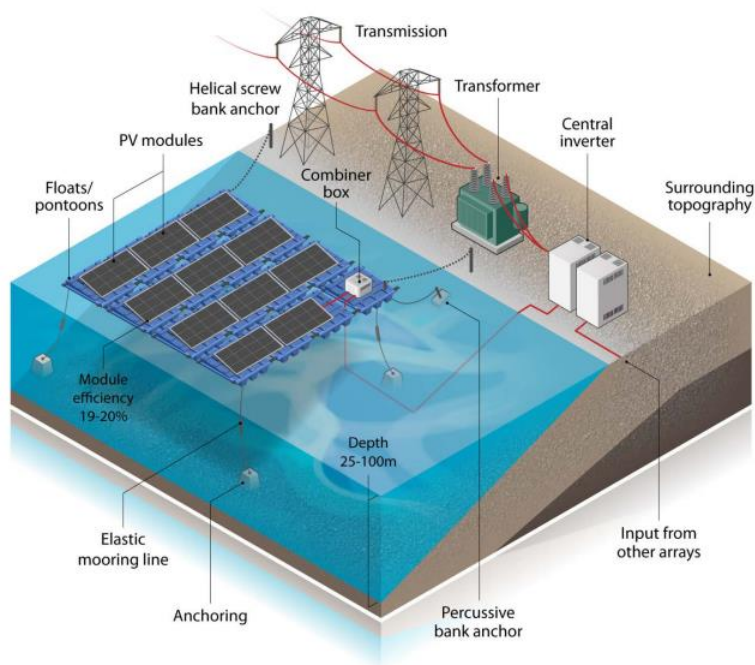


Figure 3. Schematic of an FPV system

Image credit: Alfred Hicks, NREL

Figure 1. Schematic of floating solar system (NREL, 2021).

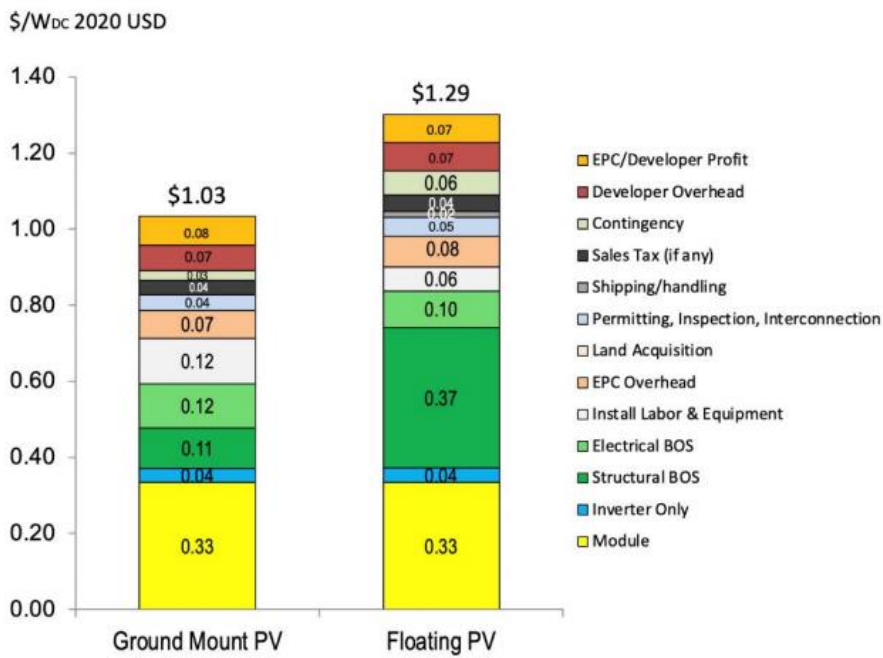


Figure 2. U.S. Installed costs of 10-MWdc base scenario (NREL, 2021).

Recommendation #2: As an alternative to Recommendation #1, a separate tranche for floating solar sited directly on bodies of water that are used for industrial or other non-public purposes could be created.

The draft CSI program has proposed 5 tranches for competitive solicitation:

- (1) Basic Grid Supply,
- (2) Grid Supply on Built Environment,
- (3) Grid Supply on Contaminated Land and Landfills,
- (4) Net metered non-residential projects above 5 MW, and
- (5) Storage paired with grid supply

Creating a 6th tranche specifically for floating solar could be a viable alternative. What would be untenable is a rulemaking that ignored the benefits of floating solar and did not address inclusion of floating solar in some manner above and beyond the Basic Grid Supply.

Recommendation #3: REV Recommends Redistribution of Undersubscribed Tranches to ensure 300MW of installed solar annually.

Ultimately, the goal of the CSI program should be to incentivize 300MW of new solar projects per year. However, it is unlikely that the administratively set targets for each tranche accurately represent what will be cost-effective and available supply in the market. Therefore, we believe that if any tranche is under-subscribed, the under-subscribed MWs should roll over into the other tranches. This supports the overall goal of the CSI program while allowing the program to be responsive to available supply.

Conclusion

The Clean Energy Act of 2018 (Act) mandates the replacement of the Solar Renewable Energy Certificate (SREC) program. The design of the new program must take steps to prevent the exceedance of the cap on costs to customers and create new incentives to encourage development. The state and BPU are directed to protect and preserve open spaces and farmland prioritizing development of grid supply utility scale solar directed toward marginal land and the built environment.

The draft proposal excludes more expensive floating solar and has re-defined marginal land as exclusively contaminated land or landfills. This narrow approach limits opportunities for New Jersey to achieve its stated solar goals, as it does not provide incentives for land uses that would meet the stated objectives of the statute.

REV respectfully requests the expansion of Tranche 3 – Grid Supply on Contaminated Land and Landfills, to include floating solar or creating a 6th tranche to include this promising technology in the CSI Program design.

In addition, the 300MW annual target set by the state should roll over into other tranches if unutilized to ensure the CSI Program is not limited by project supply in any one tranche.

Thank you for the opportunity to comment and if you have questions, please do not hesitate to call for additional information at 646-477-6514.

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