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VIA E-MAIL
TO: board.secretary@bpu.nj.gov

May 27, 2021

Aida Camacho-Welsh
Secretary of the Board
Board of Public Utilities
P.O. Box 350
Trenton, NJ 08625-3050

Dear Ms. Camacho-Welsh:

Princeton University is pleased to provide comments regarding the Board's Straw Proposal on the Solar Successor Program, as revised on May 5, 2021.

In 2019, Princeton University adopted a campus Sustainability Action Plan with the goal of achieving net zero greenhouse gas emissions by 2046. This comprehensive plan, which also seeks to reduce water usage, enhance stormwater management, design and develop responsibly, increase habitat resiliency and reduce campus waste, reflects the ambitious and wide-reaching efforts of the State to combat climate change and support clean energy development. The University is proud to be a partner in helping the State to reach its goals on this front.

Some of the tangible steps that the University is taking to meet the net zero goal include: completing energy efficient measures in existing buildings; designing and constructing new buildings to higher energy standards; converting all buildings from steam heat to hot water heat; adding campus-scale electric heat pumps and district hot water distribution; and incorporating thermal energy storage, geo-exchange, and on- and off-site solar.

This effort also relies on academic and industry innovation in the energy sector and ongoing government support for that innovation. As such, the program structure that the Board adopts will have a meaningful impact on Princeton University's ability to achieve net zero by 2046, and more specifically, the ability to attract a developer to build the solar projects we have planned and need to attain our goals. The University has pursued the power purchase agreement model for its solar projects and will continue to do so, because the University is not a solar developer. We believe that the incentives in the straw proposal will not be enough to support the types of solar projects that we need to build.

The Board heard extensive comments at the public workshops that using historic data from the state's past solar development to project the cost of future development underestimates those future costs. The most cost-effective and desirable locations for solar have mostly been developed already, so future solar development will need to be more creative and land-efficient, but is also likely to more expensive. That is why Princeton is looking for multi-dimensional locations for solar, such as a new parking deck under construction with geoexchange bores beneath it, multiple levels of parking, and a solar PV canopy above it. Solar PV canopies are planned to be added above other existing surface lots and parking decks on campus as well. Also, as electric vehicle programs grow, building solar arrays concurrently with charging stations will leverage the synergies that the two installations share - namely labor and infrastructure connectivity.

It is important that multi-layered approaches such as these, that take advantage of the existing and future built environment, are sufficiently incentivized to avoid unnecessary sprawl. Perhaps projects could even take advantage of multiple tranches, such as the basic grid supply, desired land use, and solar + storage categories.

Princeton University supports the recommendation to raise the threshold for the net metered projects tranche of the competitively bid model to 5MW, as the original 2MW threshold is too low for many projects to realize economies of scale.

Princeton also recommends that solar incentives should be allocated annually instead of every three years. This would be especially important in the first year, giving the Board the flexibility to evaluate the effectiveness of the program and pivot as the need for changes emerges. As initial challenges are overcome, the time between incentive allocations could be extended to provide the market certainty that is needed to finance projects.

Princeton would also like to address the high costs associated with capacity and demand in the PJM market, referred to as DRIPE, Demand Reduction Induced Price Effects, in the straw proposal. To the extent that solar PV displaces peak demand, the reduction of these capacity charges could be taken into account as another benefit of on-site renewable energy that is co-located with demand. Solar PV can directly reduce grid "congestion" and the need for new grid infrastructure. We would be happy to provide more details on the University's actual costs for demand and capacity if that would be useful.

Thank you for your consideration of these comments. We appreciate the efforts of the Board to develop a sustainable marketplace for solar and other carbon-neutral energy sources in New Jersey.

Sincerely,

Thomas A. Nyquist

Thomas Nyquist, P.E.
Executive Director
Campus Energy and Engineering