



Shoreline Energy Advisors, LLC

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NJ Board of Public Utilities
Acting Secretary of the Board
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SUBJECT: Comments on Storage Incentive Program

To whom it may concern:

Shoreline Energy Advisors, LLC would like to thank the Board of Public Utilities for soliciting industry input in the matter of the New Jersey Storage Incentive Program and the associated Straw Proposal concerning Docket Number QO22080540. We submit the following comments for your consideration.

Lithium Battery Centricity is Misguided – Both the fixed and pay for performance portions of the proposed Straw Proposal have a decided slant to lithium batteries which are a more established method of energy storage and are currently commercially viable in a limited duration niche. As the stated goals of the SIP program are to increase resilience, reduce carbon emissions and to transition to 100% clean energy, skewing incentives to any one technology, particularly batteries where the potential for batteries significantly improving the cited BPU goals is minimal. Technologies which have the potential to bridge the time gap between the hour when solar PV generation ceases, and when it again begins productive generation, would seem to be a better solution to the goals of resiliency, carbon reduction and clean energy. If excess solar production could be used to charge a storage medium that could bridge this 9–10-hour gap, wouldn't that be a more effective deployment of rate-payer funding?

If installed solar generation is productive from between 7AM and 6PM (this is admittedly a very generous assumption as actual productive PV generation is far less on average), and a battery provided 4 hours of storage, this would only facilitate renewable utilization to around 10PM. In the absence of a grouping of batteries (requiring more space and expense) running in sequenced succession to bridge the gap, there will be 9 hours of time (10PM-7AM) where non-renewable generation sources are required to generate power to bridge this time gap. With “ganging” of batteries, this could be conceivable, though probably not financially and practically viable in relation

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to other alternatives. Isn't one of the program objectives to stimulate the development of new technologies which address current deficiencies or performance gaps with existing storage technologies? Incentivizing battery technology seems inefficient if attempting to increase the functionality of energy storage technologies. Increased utilization of lithium batteries also introduces well documented concerns on a reliance on foreign suppliers for critical components and detrimental environmental practices for acquiring components. With the current continuous evolution of lithium batteries and its political and environmental baggage, one might justifiably question whether incentives are needed at all, or if so, whether it should be at a reduced level versus technologies that address a longer duration and more environmentally benign storage solution.

Unattractiveness of Proposed Straw Incentives to Developers - The staff's program description mentions that the storage solution can be chemical, mechanical, or thermal however except for lithium battery storage, many of the other technologies could be described as technically viable but earlier in their market development. There are mechanical and thermal technologies which today are commercially proven and capable of providing improved storage functionality versus batteries. Finding willing early adopters for these technologies requires significant effort on behalf of the developer. There are several aspects of the Straw Proposal which would discourage a developer from pushing technically viable, but sparsely adopted technologies.

A developer seeks to mitigate the risk of attaining his/her financial goals. Included in these risks are high initial capital costs to facilitate early adoption and uncontrollable variability in potential revenues.

Capital Costs of Equipment and Installation - The Straw proposal suggests as one component, a fixed annual incentive paid in a dollar per kwh of energy storage capacity (contingent on up-time performance). The proposal suggests 30% of equipment and installation costs as the targeted annual incentive. It is not clear whether the 30% is the ultimate total ceiling on the incentive or whether the 30% will be available in multiple years. If the total ceiling on this component of the incentive is 30% whether in initial or multiple years, it would seem to be too low for a developer to take the risk of developing a project, particularly in light of the second incentive component that deals with performance which is dependent upon several factors which are out of the control of the developer (this will be discussed further in comments which follow). If you consider that established technologies like cogeneration and various other energy conservation measures have incentives that result in subsidy of 30% or higher, then in relation to the incentive proposed for storage at this stage of its market development, a 30% ceiling seems lacking. Wouldn't a developer need more incentive to take the risks inherent in the costs for developing a new technology (promotion, permitting, installation requirements, component packaging costs, etc.)? If one were to compare the level of subsidy that was available in the initial stages of the solar SREC programs which spurred accelerated development of the solar industry in New Jersey, it would be much higher than the 30% plus performance-based incentives proposed here. Storage makes solar PV more functional and would seem to merit higher incentives if it is to become more prevalent.

Pay for Performance - There are aspects of the pay for performance component in both the grid storage and distributed programs which are not controllable by the developer / owner of the storage asset. For example, with the grid storage program, the wholesale supply markets are determined by many factors such as weather, available generation on the grid, transmission capacity and others,

which are beyond the control of a storage asset owner. The amount of storage supplied power is dependent upon these extraneous variables. Developers will be reluctant to invest in storage if their projected revenues are widely variable and out of their control. Similarly, on the retail, or distributed storage incentive, the pay for performance seems to be dependent upon the storage resource being called upon by the EDC. Performance should not be dependent upon the benevolence of an EDC but should be based upon how much stored power is injected into the grid or customer location. This would place an incentive on the owner / operator to maintain and operate the asset to achieve a maximum capacity factor.

Utility or Utility Affiliate Ownership of Storage Assets is Problematic – The potential for a local electric distribution utility to have a predominant market share in the storage market presents all of the same market development handicaps that have slowed the maturation of other energy technologies such as solar, EV's and efficiency. By the time a utility gets done horse-trading with the Board on program design, months, if not years, have gone by that could have been used to accelerate market development. Utilities have demonstrated a strategic tactic to negotiate favorable treatment from ratepayer funded programs, where they then subsequently drown the market with ratepayer funded investment that destroys the supply and demand balance that would otherwise evolve in a competitive market. After the market is saturated from utility investment which is protected from market risk by rate-basing and generous granting of regulated rates of return, they retreat from the market, often selling those assets, leaving free market entities to clean up the crumbs that remain. Is this level of regulatory largess to privileged utilities necessary and useful in facilitating the development of emerging technologies and markets?

Additionally, the pay-for-performance aspects of the proposed program are dependent upon a utility calling for storage capacity performance. If they own storage capacity, either as a utility or as an unregulated affiliate of a utility, they can time their demands so that it is advantageous to their storage assets and shareholders. They can call for their own capacity to the detriment of non-utility storage ownership.

The whole concept of “hybrid utilities,” those with both regulated and “unregulated” subsidiaries under a holding company structure, is a tremendous impediment to the development of energy markets and is long past the point of where it should be reconsidered. Utility holding companies have an unfair advantage when allowed to participate in markets that are not natural monopolies (e.g.: electric power distribution). The often-heard claim that a “Great Wall of China” exists within utility holding companies which prevents rate-payer funding from being used to support non-utility investment is absurd. A utility holding company is only able to invest its retained earnings, stock proceeds or debt capital, due to the earnings ability of its regulated subsidiary which dominates its income statement. To add insult to injury, “regulated” assets have grown beyond natural monopoly assets to include things like nuclear and solar generation, efficiency and now even electric vehicles and charging stations. All these non-natural monopoly, rate payer funded forays, and alleged “non-regulated” subsidiaries are funded overwhelmingly with revenue from regulated operations having guaranteed returns. These earning flow into the holding company’s income statement, providing both financial resources and credibility in borrowing markets, which render the concept of a “Great Wall of China” implausible.

These unfair advantages of hybrid utility holding companies, together with their proclivity to delay implementation until their indisputable conflicts of interest are resolved to their satisfaction, and the inevitable internal bureaucracy of staff and process they devise, are obvious impediments to achieving the goals of the storage program in a reasonable time frame. For these reasons, utility, or utility affiliate, involvement in the storage program should be prohibited.

Please feel free to contact the undersigned with any questions or needs of clarification.

A handwritten signature in blue ink, appearing to read 'FF', with a stylized, cursive flourish extending to the right.

Fred Fastiggi -Managing Director
Shoreline Energy Advisors