



**MAREC
ACTION**

**Docket No. QO22080540, IN THE MATTER OF THE NEW JERSEY ENERGY STORAGE
INCENTIVE PROGRAM**

**Joint Comments of the American Clean Power Association and Mid-Atlantic Renewable
Energy Coalition Action**

December 12, 2022

SUBMITTED VIA EMAIL

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Secretary of the Board

State of New Jersey
Board of Public Utilities
44 South Clinton Avenue, 9th Floor

Post Office Box 350
Trenton, NJ 08625-0350

RE: Docket No. QO22080540 –New Jersey Energy Storage Incentive Program

Dear Board Secretary,

The American Clean Power Association (ACP) serves as the voice of more than 750 member companies that represent a diverse cross-section of the world's leading energy companies, energy investors, energy consumers, and power generation manufacturers from across the clean power sector that are driving high-tech innovation through the development of generation assets including wind, solar, and energy storage, spurring massive investment in the U.S. economy while creating jobs for American workers.

MAREC Action is a coalition of utility-scale solar, wind, and battery storage developers, wind turbine and solar panel manufacturers, and public interest organizations dedicated to promoting the growth and development of renewable energy in the Mid-Atlantic region. MAREC Action provides expert guidance and advocacy on policy and regulatory issues, as well as a unified voice for the industry.

ACP and MAREC Action represent a diverse coalition of energy storage developers, owners, and operators that build front-of-the-meter (FTM) and behind-the-meter (BTM) energy storage facilities in all settings across residential, commercial, industrial, and utility-scale applications. Our members build and operate distribution and transmission connected standalone energy storage facilities and energy storage facilities co-located with renewable generation facilities across the United States.

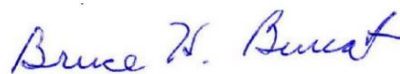
Energy storage technologies play an increasingly integral role in the decarbonization of electric grids across the country, including in the State of New Jersey. Energy storage enables an accelerated, reliable, and affordable transition to a clean, efficient, and modern power sector and, as a growing industry, state policy frameworks are important in determining which states maximize the benefits that energy storage can provide. Beyond serving as a critical component to New Jersey's clean energy and decarbonization goals, energy storage provides myriad inherent benefits to the electric grid and New Jersey electric customers. The sooner New Jersey can enable the development of energy storage resources in the state, the sooner New Jersey residents and ratepayers can realize its benefits.

With the recommendations contained within this comment submission, ACP and MAREC Action hope to inform the adoption of an effective Storage Incentive Program in New Jersey to ensure that the citizens of New Jersey can benefit from a more resilient, affordable, and sustainable electric grid. ACP and MAREC thank the New Jersey Board of Public Utilities staff for their ongoing work to develop this program and serve the people of New Jersey.

Sincerely,



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Introduction to the American Clean Power Association and the Mid-Atlantic Renewable Energy Coalition Action

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The Value of Energy Storage

Energy storage technologies provide a variety of benefits to the New Jersey electric grid and the residents it serves. The straw proposal correctly identifies the many services that energy storage can provide across grid-scale, commercial, and residential applications. These services include demand charge reduction, energy arbitrage, demand response, frequency regulation, and voltage support in addition to supplying capacity markets with spinning and non-spinning reserves, allowing for the deferral of larger more expensive power system infrastructure upgrades, and providing resiliency and back-up power capabilities. These services and applications are often combined to represent the "value stack" of energy storage resources.

What the value stack of energy storage represents more broadly, is a more resilient and reliable grid that's able to keep the lights on and the air-conditioning or heating systems operating in extreme weather events. Reducing or minimizing outages, enhancing grid resilience at both a local and regional level, can keep people safe and save lives.

Energy storage also reduces costs and saves money for the residents of New Jersey. Through the myriad services provided by energy storage resources to increase grid efficiency, such as storing energy when the price of electricity is low and discharging that energy during periods of high demand, energy storage can reduce costs for utilities, and in turn reduce rates for families and businesses. Also, by enhancing grid resilience, providing back-up power, and minimizing outages, energy storage can help prevent costly damages associated with loss of power or interruption to business operations.

Adding energy storage resources to the electric grid introduces additional flexibility, which enables the integration of higher and higher shares of clean, renewable power sources, like wind and solar, and allows more people rely on distributed energy resources, like rooftop solar and electric vehicles. All of these resources can be further enabled by energy storage to contribute to reducing both short-term local air pollution and broader grid decarbonization.

Front-of-the-Meter (FTM) systems can bring benefits by responding to price signals from the electric distribution company ("EDC") or wholesale market. In contrast, behind-the-meter (BTM) serve customer load or provide resilience benefits to a specific customer. FTM and BTM systems provide unique benefits to the grid and to electric customers. These projects can be sited in all settings, residential BTM systems, commercial and industrial FTM and BTM systems, and utility-scale FTM systems. Because FTM and BTM systems provide different services and

benefits, it's appropriate for incentive, compensation, or procurement programs to differentiate program designs.

Energy storage projects and facilities boost local economies and broader tax bases, reducing local tax burdens for residents without adding pressure on other governmental services. The U.S. energy storage industry currently supports over 60,000 jobs at companies leading cutting edge technological innovations, advanced manufacturing, engineering and construction, and continues to grow and provide workforce opportunities for Americans.

Energy storage resources provide a broad array of benefits and enable a cleaner, more efficient, and reliable electric grid.

ACP and MAREC Action Support the Creation of an Energy Storage Incentive Program

The Clean Energy Act of 2018 set energy storage targets of 600 MW by 2021 and 2,000 MW by 2030 for the state of New Jersey. The enacted law requires the New Jersey Board of Public Utilities (BPU) to initiate proceedings to develop mechanisms to support achieving the targets. ACP supports the creation of a Storage Incentive Program as a mechanism which can help promote progress toward deploying 2,000 MW of energy storage by 2030.

ACP and MAREC Action commend the BPU staff for the creation and introduction of the proposed Storage Incentive Program (SIP). ACP strongly supports the creation of an incentive program that includes both an upfront, fixed incentive in combination with a performance-based payment.

Energy storage is an increasingly cost-effective solution for electricity customers and is a rapidly growing resource in a number of markets across the country. This trend is expected to continue as prices continue to fall and the industry continues to grow. Yet regulatory frameworks, market rules, and other barriers can hinder the deployment and integration of energy storage resources and prevent customers from being able to provide or monetize the value their energy storage system can offer. These policies and regulatory frameworks can affect project investment decisions and limit states and their residents from fully benefiting from the valuable services and benefits that energy storage can provide to the electric grid.

Energy storage cost-benefit studies conducted for Massachusettsⁱ, New Yorkⁱⁱ, and Nevada have revealed the potential value of energy storage systems to customers, utilities, and the electric system. Incentive programs can serve as a bridge on the path towards realizing this value, jumpstarting a state's storage market while the necessary reforms are finalized to enable customers to secure financial compensation for the value their storage systems provide. The benefits of soft cost reduction through incentivizing the near-term deployment of megawatts can far exceed the costs of an incentive program, and the compensation of energy storage for the services it provides through performance payments can multiply the value that energy storage provides to the grid and to New Jersey residents.

New Jersey has recognized the significant value that energy storage can provide by establishing a target of deploying 2,000 megawatt of energy storage resources by 2030. However, without action by the New Jersey Board of Public Utilities to establish mechanisms that reduce barriers and promote market development for energy storage developers, owners, and operators, New Jersey will continue to fall further behind in reaching its 2030 goal.

Summary of Recommendations

ACP and MAREC Action commend the BPU staff for the thoughtful and thorough development of the Storage Incentive Program straw proposal. In general, our organizations and membership support the creation of a multi-pronged incentive structure, which includes both upfront fixed incentives as well as a performance incentive. ACP and MAREC also support the separation of programmatic design between FTM "Grid-Supply" and BTM "Distributed" energy storage projects. Both grid-supply and distributed energy storage systems provide unique benefits and services to the electric grid and its customers.

However, without changes to the current proposal, particularly as it relates to the Grid-Supply program, ACP and MAREC are concerned that the Storage Incentive Program will not be able to adequately incentivize and facilitate energy storage deployment in a manner that permits New Jersey to meet its energy storage target of 2,000 MW by 2030. Below is a summary of recommendations offered on behalf of our members:

- Combine the intra-year blocks in the fixed incentive into an annual block structure and ensure the incentive amount is at a level that will promote project investment and early market development;
- Upfront, fixed incentive procurement quantities in the first years of the program should be substantially increased;
- The BPU staff should partner with energy storage developers and operators to determine any appropriate incentive award terms related project eligibility and timelines;
- While ACP and MAREC maintain concerns about the efficacy of the straw proposal's grid-supply performance-based incentive, the BPU should develop the program in partnership with energy storage developers and operators to ensure that the program effectively compensates energy storage resources for the variety of services and benefits they provide. In the interim, the BPU should consider a performance incentive based on a peak reduction framework;
- The CSI program needs to incorporate additional resources to achieve its new program target of 1000 MW of storage procured by 2030. If the assumptions for energy storage procurement via the Competitive Solar Incentive Program Storage Adder are not met in first few years of the program, additional resources should be dedicated to the SIP in order to meet the 2030 deployment target; and
- Long duration technologies should be able to access the incentive programs in New Jersey, and the BPU should consider a specific incentive design or procurement program to address the unique services and values provided by long duration energy storage.

Fixed Incentive with Declining Blocks

While ACP and MAREC strongly support the creation of an upfront payment structure as part of the SIP, our organizations have several concerns regarding the proposed design and recommendations for improving the program. For the BPU to implement an effective fixed, upfront incentive program, ACP and MAREC recommend that the intra-year blocks be removed and combined into single-year capacity allotments, that the backloaded procurement quantities be more evenly distributed throughout the program years, and that the initial incentive is sufficiently high in the first few years of the program.

Combine Intra-Year Blocks and Ensure Adequate Incentive Levels in Initial Years

ACP and MAREC understand the rationale behind the creation of a declining block structure as included in the staff straw proposal, however, a declining block structure will not be effective with the current size of the proposal's annual capacity blocks and is not appropriate for larger, grid supply projects that take years to develop and build.

Based on the experience of other incentive programs for grid supply projects, such as New York's Market Acceleration Bridge Incentive, the capacity blocks for grid-supply projects will likely fill up as soon as they become available. In this situation, the projects that sign up for later incentive blocks will receive a lower incentive not because of any market maturity or cost declines, but because they didn't get in line fast enough. ACP and MAREC recognize that BPU staff have indicated that this means the incentive amount included in the combined block will be reduced compared to the initial blocks proposed in the declining block structures. Our organizations also understand that the BPU staff will need to adjust their incentive structure based on the outcomes achieved each year of the program and recommends that the BPU ensure that the incentives associated with the first few years of the upfront incentive are sufficiently high to incent the development of projects through the SIP.

As recognized in the BPU staff straw proposal, the benefits of energy storage projects significantly outweigh the costs of investment, so the initial incentive blocks should reflect the high net benefits yielded by New Jersey and its residents from jumpstarting the energy storage industry in the state.

Increase Block Procurement Quantities for Initial Program Years

As currently proposed, the grid-supply portion of straw proposal begins with an initial procurement quantity of 30 MW, or 120 MWhs, and builds up to 300 MW, or 1200 MWhs, in program years 2029 and 2030. Currently, grid-supply projects, otherwise referred to as utility-scale projects, can range from around 5 MW to 100 MW of nameplate capacity. The procurement quantities outlined in the first few years of the program are small enough that several, or even just one, grid-supply project could obligate an entire program year incentive allotment.

Additionally, the procurement quantities as currently structured backload a significant portion of the program's total procurement quantities in the last few years of the program. With such a disparity in the allocation of incentive resources, New Jersey risks failing to prompt early investments that allow the energy storage market to mature in during the first few years of the program, delaying the broader benefits that energy storage can provide. ACP and MAREC propose adjusting the apportionment of the procurement quantities to reduce the disparity in procurement quantities between the first and last years of the program and provide a more level and gradual increase over time, while starting from a larger procurement quantity in the initial program year blocks.

The procurement quantity for grid supply program years 2023/2024 and 2024/2025 should be at least doubled in size, from 30 MW to 60 MW in program years 2023/2024 and from 50 MW to 100 MW in program years 2024/2025. The procurement quantities can continue to scale to greater quantities per the schedule proposed by the BPU staff, however, the amounts can increase more gradually over the duration of the program.

Performance Metrics

ACP and MAREC agree that performance metrics are appropriate to apply to projects that have been awarded resources through the SIP fixed incentive. If there are divergences from the performance expectations laid out in the SIP, the BPU should assess on a case-by-case basis whether a cessation of payments is the appropriate course of action given the individual circumstances of any specific project and the reasons that the system is not online and available for dispatch. One reason why the BPU should investigate the individual circumstances of any instances where projects do not meet performance metrics is in order to preserve the energy storage industries' priority of preserving safety above all else. Performance metrics should not hinder or perversely affect standard industry maintenance practices or safety procedures.

Project Eligibility & Flexible Timelines

As the BPU implements the SIP, it's important that various factors related to project eligibility are taken into account as incentive resources are awarded to projects. To guard against ineffective allocation of limited incentive resources to underdeveloped projects, the BPU should assess whether eligible, applicant projects demonstrate a readiness or capability to execute upon receipt of a SIP award. This goal of preventing incentive awards from being obligated by projects that are unlikely to be executed should also be balanced with the importance of maintaining flexibility around project timelines. Terms related to the incentive awards and associated timelines should take into account lengthy regulatory and permitting processes that are undeveloped and untested relative to neighboring states. Developers may also be limited by and should not be penalized because interconnection backlogs. It is important for the BPU to work closely with the entities developing and operating energy storage resources in New Jersey to determine appropriate terms related to eligibility and timelines.

Developing Effective Performance-Based Incentives

In general, ACP and MAREC agree that a fixed, upfront incentive that is paired with a performance payment or compensation is an appropriate approach to designing an incentive program aimed at jumpstarting the deployment of energy storage and developing a sustainable market over the longer-term. ACP and MAREC support the inclusion of a performance-based incentive as part of the SIP, but provides the following recommendations to guide further development of the program.

Grid Supply Program

ACP understands that the rationale for the structure of the performance-based incentives included in the straw proposal is to encourage the operation of energy storage resources in a manner that maximizes short-term environmental benefits calculated in terms of reductions in marginal emissions and criteria pollutants. While ACP recognizes the straw proposal's intended goal of ensuring that energy storage resources maximize contributions to emissions reductions in the short-term, ACP is concerned that without effective program design and the availability of accurate and timely data, this program could detract from the primary objective of deploying energy storage resources to enable and accelerate the transition to clean energy and electric grid decarbonization.

Energy storage is and will be a critical component to the transition from polluting, emissions-producing fossil generation to clean and renewable generation sources. While New Jersey has made progress in deploying cleaner resources like solar and is pursuing the deployment of generation resources like offshore wind, New Jersey has missed its legislative target of procuring 600 MW of energy storage by 2021 and is not on track to meet its objective of procuring 2,000 MW of energy storage resources by 2030. Energy storage technologies enable New Jersey to rely on higher and higher shares of clean and renewable generation sources and it will be important for any performance-based payment to serve as an additional incentive for project deployment and not as a barrier to both near-term market development and longer-term grid decarbonization.

The SIP straw proposal notes that PJM has cautioned BPU staff that its marginal emissions data is not fully developed, which could impact the effectiveness of the performance-based incentive. ACP and MAREC would like to echo those concerns and recommends that, while the program design and requisite data capabilities are developed, that the BPU ensure that the fixed incentive include the financial resources that would otherwise have been awarded to projects via the performance-based incentive.

Additionally, the emissions-based performance incentive described will diminish the revenue potential of energy storage. In the technical meeting, BPU staff provided charts of marginal emissions and price to demonstrate that economic signals diverge from emissions signals. It follows that an energy storage resource incentivized to follow emissions signals cannot also maximize its economic potential. Fewer revenues for energy storage resources will require higher incentives to achieve the same deployment.

A variety of additional guidance and clarifications are needed on how the emissions-based performance incentive would be structured. This includes additional information regarding how the BPU will account for the precise value of a kilogram of offset carbon emissions, as well as whether PJM will provide an emissions forecast of marginal emissions to aid planned asset charge and discharge patterns. The data that would be used by the BPU to determine emissions reduction calculations would need to be transparently provided to energy storage operators.

Given the uncertainty around the final program design and efficacy of PJM's emissions data, ACP and MAREC recommend that the BPU delay implementation of the performance-based incentive until BPU and stakeholders can develop a program that accurately incentivizes the environmental value of energy storage, including its facilitation of the decarbonization of the power sector. In the interim, our organizations recommend that the BPU consider utilizing a peak reduction framework to provide performance payments to grid supply energy storage resources. The BPU should conduct additional analysis and gather industry feedback regarding how a peak-based program should be designed and implemented to support near-term energy storage deployment in New Jersey.

Distributed Program

ACP and MAREC generally support the Straw's approach to establishing a performance-based incentive for the distributed program by directing each Electric Distribution Company (EDC) to create a program that compensates eligible energy storage resources based on dollars per KWh, provided to energy storage systems operating during specified call hours. ACP and MAREC recommend that the Distributed performance-based incentive be measured based on

the behavior of the energy storage resource, regardless of load. This would include clarifying that these energy storage systems are permitted to inject onto the grid. It is also important for the BPU to ensure that the Distributed performance-based incentive allows value stacking during performance events.

Assumptions for the Competitive Solar Incentive Program with Added Storage Incentive

ACP and MAREC appreciate the inclusion of the solar-plus-storage component in the proposed Competitive Solar Incentive (CSI) Program. There are a variety of benefits associated with co-locating energy storage systems with solar generation facilities across utility-scale, commercial, and residential settings. However, our organizations are concerned with the assumptions included within the SIP that predict the CSI program to result in 1,000 MW of procured energy storage, or half of the capacity required to meet New Jersey's 2,000 MW deployment target.

The SIP Straw states that the program is operating under the assumption that the CSI program's solar-plus-storage component will procure 1000 MW of energy storage capacity by 2030. However, the Straw also states that the assumptions included within the CSI program are targeted at procuring just 160 MWh, or 40 MW, each year, far less than the expected 1000 MW by 2030. The 1000 MW assumption included within the Straw does not match the 40 MW per year target established in the CSI program.

ACP and MAREC recommend that either the solar-plus-storage component of the CSI program either be adjusted to ensure 1000 MW can be procured by 2030, or that the BPU consider increasing the total procurement quantity of the SIP. For example, the BPU could target 800 MW of storage procured through the CSI program, adding an additional 200 MW to the total quantities procured by the SIP to meet 2000 MW by 2030. ACP and MAREC also recommend that the BPU continually assesses the efficacy of the energy storage adder incentive and whether in practice the CSI program is on track to procure 1,000 MW of energy storage capacity. Based on the initial results and success of the CSI program, the BPU should remain prepared to enhance the incentive included in the SIP in order to address any shortfalls in capacity deployment through the CSI program so that New Jersey can sufficiently and flexibly deploy resources to ensure that the State is on track toward meeting its statutory target.

Long Duration Energy Storage Technologies

Long duration energy storage technologies should be eligible for an incentive program or procurement mechanism that appropriately compensates long duration energy storage for the unique services and value it provides. ACP and MAREC recognize that there are various definitions for what is considered long-duration energy storage. Many states and jurisdictions have defined long duration technologies as any energy storage technology that provides greater than 10 hours of storage, while others differentiate between durations less than 24 hours and multi-day storage technologies. The variety of use-cases, applications, and benefits that can be provided by energy storage technologies with substantially longer durations than four hours demonstrates the importance of an incentive design that recognizes these unique benefits while maintaining the integrity of the SIP.

Additionally, a distinct structure for longer-duration technologies would allow for the further evaluation of the various classes of storage, which as the straw proposal notes, can have very different cost structures and provide different grid services. The straw proposal rightly indicates that it should weigh three factors: expected storage cost declines; the many benefits of quickly

scaling storage; and the need to gain operational experience in New Jersey. New Jersey can balance these factors and build a broad storage portfolio that allows the state to cost-effectively achieve its greenhouse gas reduction goals is to cultivate diverse storage classes. ACP and MAREC recommend that the BPU consult and coordinate with firms specializing in long duration energy storage technologies in order to develop and implement a detailed incentive or procurement framework that appropriately considers the value provided by long duration energy storage.

Overburdened Communities

ACP and MAREC agree with the SIP straw in its approach to ensuring that overburdened communities have access to the localized benefits provided by energy storage resources. Our organizations support the BPU staff determination that program parameters should not be applied to grid-supply energy storage resources pertaining to overburdened communities given a variety of factors surrounding the applicability of such parameters.

Rate Design for Front-of-the-Meter Energy Storage

Front-of-the-meter (FTM) energy storage resources provide unique services and benefits to the grid, as noted and supported by the BPU Straw. In other states, utility rate structures applied to energy storage systems have caused projects to become cost prohibitive. In some cases, rather than recognizing FTM energy storage as a unique grid asset, systems have been assigned rates akin to large commercial and industrial customers. Distribution-connected energy storage resources do not constitute end-use load, rather they serve as a waystation for the grid, and as such should not be subject to rate structures or charges designed for end use load. ACP and MAREC recommend that the BPU direct EDCs in New Jersey to file tariffs that are revenue neutral and that these tariffs exempt FTM energy storage systems from charges intended for end-use load. Through this process, the BPU can help ensure that New Jersey has fair rate designs that recognize the unique benefits of distribution-connected energy storage systems.

Conclusion

ACP and MAREC thank the BPU staff for the creation of the New Jersey Energy Storage Incentive Program straw proposal and docket. ACP, MAREC, and our members are grateful for the opportunities to participate in stakeholder meetings and contribute to the development of an effective storage incentive program through written comments. ACP and its members remain available to serve as a resource as the BPU continues its critical work to implement programs that will enable New Jersey to achieve its 2030 energy storage deployment target and its broader clean energy goals.

ⁱ Massachusetts Energy Storage Initiative. State of the Charge. <https://www.mass.gov/doc/state-of-charge-report/download>

ⁱⁱ New York State Energy Storage Roadmap.

<https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=209590&MatterSeq=55960>